Direction générale
de la coordination
des politiques, de l'analyse
et des systèmes de gestion

Policy Coordination
Analysis & Management
Systems Branch

Canada

YOUTH HEALTH IN CANADA

TRENDS, ASSESSMENT AND PSYCHOSOCIAL ASPECTS

Michel Tousignant

for

Social Trends Analysis Directorate

March 1985

This document is part of a series of research reports resulting from work either performed or commissioned by the Social Trends Analysis Directorate. To obtain a copy of the report, please contact the Communications Directorate, Department of the Secretary of State (Ottawa, K1A 0M5).

(The French text is the original version)

Texte français disponible

A list of research reports on youth already published or to be published can be found at the end of this document.

FOREWORD

There has been a continuing interest by the Secretary of State in youth. This interest has recently been heightened by the International Year of Youth in 1985 and by the situation of young people in Canada today, a situation which, although it presents many problems, also offers new opportunities. The importance attached to youth was emphasized by the appointment of a Minister of State for Youth.

To achieve a better understanding of Canada's young people, a program of research on youth has been developed by the Social Trends Analysis Directorate. Within the framework of this program, two exploratory documents have been produced and they particularly bring to the fore the embryonic state of research on youth. In order to alleviate this gap, seven research reports focussing on specific aspects of young peoples' lives were undertaken. These reports are aimed at gathering, organizing and analyzing the available and most relevant information on the topic.

This report was prepared by Michel Tousignant, Professor of Psychology at the University of Québec in Montréal, and author of a number of works in the field of health. In this study, he has tried, based on official statistical data and on the results of many canadian and foreign studies, to describe and analyse from a psychosocial perspective the state of health and the concomitant life habits of young people. While underlying the differences and similarities between the sexes and with older age groups, the author presents the trends as well as weak points and accomplishments made in youth health in order to provide some points of reference for thoughts on prevention.

Needless to say, the author is solely responsible for this study and it should not be taken as reflecting the views of the Department of the Secretary of State.

Jean-Marie Romeder
Director
Social Trends Analysis

SUMMARY

This document is intended to present an overview of the physical and mental health of young Canadians aged 15 to 25. First, it outlines various aspects of an individual's lifestyle which affect health. It then describes the main data respecting the following points: sexuality and the reproductive system, mental health, physical health, and general mortality. The conclusion presents a number of reflections on the synthesis of the data, future research and prevention.

Alcohol consumption among young people is a matter of considerable concern. Data gathered by Statistics Canada (1978) and the Canada Health Survey reveal high rates of heavy drinking among the young, especially those aged 20 to 25. According to the latter study, 31% of males and 8% of females exceeded the upper limit of 14 drinks per week. Several studies carried out in different regions of the country suggest that consumption is linked to a number of problems: alcohol dependence and problems at school, as well the individual's entourage and parents. Given that alcohol consumption associated with problems among men and high consumption among women generally extend to adulthood, it is likely that alcohol consumption will continue to be a serious problem as young cohorts* grow older. Alcohol consumption also has a direct bearing on the high number of fatal highway traffic accidents.

Although the number of smokers among young people is declining slightly, it is still high, especially among those aged 20 to 25. Reductions in recent years in the number of males who smoke have been partially offset by the stabilization of, or increase in, the number of females who do. According to the Canada Health Survey, while females smoke almost as much as males in the 20-24 category, more men than women (18% and 9%, respectively) are heavy smokers (more than 22 cigarettes daily). As tobacco is the factor which is most closely associated with mortality due to natural causes after the age of 30, it is unlikely that the current slight decrease in smoking will appreciably alter morbidity* statistics over the next few decades.

Consumption of non-medical drugs does not appear to be increasing among young people. Unfortunately, available data on consumption of such drugs do not include information respecting the problems which accompany it. However, a study carried out among school children revealed that at least half of heavy and daily consumers of these drugs admitted to having psychological problems as a result of taking them. The use of medical drugs without a prescription does not seem particularly widespread, nor is it a serious problem. More complete information would enable us to draw more definite conclusions.

Over the years, fertility rates have continued to fall among young women--by 38% among those aged 15 to 20 and 33% among those aged 20 to 25 between 1970 and 1982. This can be explained, in part, by an increase in the number of abortions. Moreover, it seems that the number of pregnancies is declining. Among unmarried females who give birth, most now choose to keep and raise their children. As a result, between 1971 and 1981, the number of single mothers doubled among women aged 18 to 25. Therapeutic abortions--the only type on which information is available--do not appear to be increasing, and are limited compared with figures for other industrialized countries.

Studies on various means of contraception indicate that they are used more extensively among those aged 20 to 25 than those aged 15 to 20. Because encounters are unplanned, or for want of information, most young people do not use contraceptives during their first sexual experience.

Sexually transmitted diseases are still a problem among young people. It is compounded by the fact that a number of medicines are not effective against a certain type of gonorrhea, and the reluctance of numerous adolescents, in particular, to use condoms to prevent the transmission of such diseases.

Results on the mental health scales indicate that young people are neither in better, nor worse, condition than older people. However, females in the 15-19 category achieve lower scores in some surveys. The number of attempted suicides is also very high in this cohort among women, which confirms the trend noted. With respect to emotional states, young people generally declare more emotions, whether positive or negative, than their elders. Nothing indicates that they are unhappier or more alienated than older generations. Hospitalizations for psychiatric care are more or less the same for both sexes. Men are hospitalized earlier for schizophrenia, and women suffer more from affective problems (depression) and neurosis.

Indicators of activity and physical fitness generally reach a peak among young people aged 15 to 20. Test results drop--often sharply--after the age of 20.

The indicators of handicaps in roles, such as bed-days or disability days are hard to interpret with regard to young people. Health is often not the cause of the disability, which is attributable to accidents, or, in the case of women, delivery. About 10% of young people aged 15 to 25 admitted to being in poor health. Although this percentage is not high, it is not much lower than that for older people (20%).

As is the case for the population at large, hospital morbidity* among young people is declining slightly. Once again, accidents, delivery and problems related to pregnancy explain, to a considerable extent, hospitalizations in this category. Work-related accidents among young males are a major problem, as rates are generally the highest among those aged 20 to 25.

Mortality caused by automotive accidents has increased significantly among young males aged 15 to 20 since 1961. Alcohol consumption partly explains the high rate in this segment of the population. However, a lack of driving experience, and failure to use seat belts may also be important factors.

Suicide rates have multiplied since 1961 in Canada. In the 15-24 category, Canada currently has one of highest rates among industrialized countries. Attempted suicides and suicide ideations* are also numerous among young people. This phenomenon has probably increased more dramatically than any other over the past 20 years.

Mortality rates for young people are especially high among Amerindians. Highway accidents, suicide and other types of accidental deaths, particularly resulting from fires, are more numerous among members of this group than in the population at large. Alcohol consumption is frequently associated with such deaths.

A number of psychosocial explanations may be related to each of these facts; the factors obviously change according to the behaviour studied. The main ones are: parental influence (drugs, tobacco), the influence of friends (drugs, tobacco) and single parenthood (suicide).

Young people appear to be generally well informed on problems associated with certain aspects of lifestyle. The challenge consists less of providing them with information in this regard than in finding original ways of encouraging them to change their behaviour. As peer group influence is very important during this period, more emphasis must be placed on socialization in the area of prevention. Moreover, situations occasionally differ between the sexes, and programs should vary according to target groups; in this area, preventive behaviour is often perceived by young people as being feminine. One of the main variables highlighted is that preventive behaviour is more often noted among young people who believe they can influence the state of their health.

While epidemiological research is extensive and of high quality, there is every reason to promote new research on the following lines: undertake comparisons of several behaviours and states of health, carry out longitudinal studies, examine high-risk, non-student and ethnic groups, and develop clinical tools for identifying crucial events and living conditions which affect identity and health.

ACKNOWLEDGEMENTS

The author wishes to thank the following people in particular for their advice and the documents which they made available: Irving Rootman, Health Promotion Directorate, Ottawa; Jean-François Saucier, Faculté de médecine, Université de Montréal; and Reginald Smart, Ontario Addiction Research Center.

Danielle Blanchard, a psychology student at the UQAM, helped locate documentation.

Carmen Frenette and Linda Demers of the Social Trends Analysis Directorate of the Secretary of State painstakingly revised the manuscript. Numerous other people offered their comments, for which I am very grateful.

I also wish to thank the team of Louise Lapierre and Hélène Aylwin at Statistics Canada, who prepared Canadian Youth: Perspectives on their Health, for providing us with a series of statistical tables which were essential for our analysis, some of which are reproduced in this report.

The Social Trends Analysis Directorate would like to acknowledge the participation of Jean-Pierre Dupuis and Jeanne Landry for proofreading, David O'Malley from Aeographics for the figures and Rachel Whissell for the typing of the text.

The analyst responsible for this document is Carmen Frenette.

TABLE OF CONTENTS

Page

Foreword iii

Summary. v

Acknowledgements ix

Table of contents. xi

List of Figures in the Text. xiii

List of Tables in the Appendix xiii

Symbols used xvi

Introduction 1

1. Lifestyle 3
   1.1 Alcohol. 3
   1.2 Tobacco. 7
   1.3 Non-Medical Drugs. 9
   1.4 Medical Drugs. 12
   1.5 Physical Activity. 13
   1.6 Nutrition and Dental Hygiene 15

2. Sexuality and the Reproductive System 17

   2.1 Pregnancy and Related Risks. 17
   2.2 Abortion 18
   2.3 Sexual Relations and Contraception 19
   2.4 Sexually Transmitted Diseases. 20

3. Mental Health 21

   3.1 Emotional Life 21
   3.2 Mental Health Scales 22
   3.3 Psychiatric Morbidity. 23

4. State of Physical Health. 25

   4.1 Health and Physical Fitness. 25
   4.2 Subjective Assessment of Health. 25
   4.3 Indicators of Handicaps in Roles 26
   4.4 Consultations with a Medical Doctor. 26
   4.5 Hospital Morbidity 26
   4.6 Work-Related Accidents 32

Page

5. General Mortality 30

5.1 Life Expectancy 30
5.2 Deaths Due to Automobile Accidents 33
5.3 Suicide 36
5.4 Violent Deaths Among Native Peoples 40

6. Conclusion 41

6.1 Summary and Future Prospects 43
6.2 Reflections on Future Research 43
6.3 Reflections on Prevention 43

Definitions 47

Appendix: Tables of Reference 49

Bibliography 89

List of Research Reports on Youth 100

LIST OF FIGURES IN THE TEXT

		Page
Figure 1:	Percentage of the Population Doing Regular Physical Activity, by Certain Age Groups, and Sex, Canada, 1981.	14
Figure 2:	Rate of Patient-Days per 100,000 Population by Major Causes, Selected Age Groups and Sex Canada 1980-81	29
Figure 3:	Death Rates per 100,000 Persons Following Motor Vehicle Traffic Accident for 15-24 Years, by Age, Sex, Canada, 1961, 1971 and 1981.	31
Figure 4:	Death Rates (per 100,000 Population) for Children and Youth Adults, by Age, Sex and Cause, Canada, 1980.	32
Figure 5:	Relative Likelihood of Fatal Crash for "Impaired Drivers" as a Function of Age, Canada, 1974-75. . .	35
Figure 6:	Suicide Rate (per 100,000 Population) by Age and Sex, Canada, 1961 to 1981	38

LIST OF TABLES IN THE APPENDIX

Table 1:	Synthesis of Studies on Young People and Alcohol Abuse	51
Table 2:	Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Age and Sex, Canada, 1978-79	52
Table 3:	Percent Reporting Specified Problems by Level of Alcohol consumption, Alberta and Manitoba Teens, 1981.	53
Table 4:	Percentage of Regular Cigarette Smokers Among Males 15 and Over, by Region and Age Group, Canada, 1966-1981.	54
Table 5:	Percentage of Regular Cigarette Smokers Among Females 15 and Over, by Region and Age Group, Canada, 1966-81	55
Table 6:	Proportion of Population 14 and Over Reporting Daily Cigarette Smoking, by Age and Sex, in the Smoking Habits of Canadians Survey, December 1977 and December 1979, and Canada Health Survey, 1978-79. .	56
Table 7:	Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Sex, Canada, 1978-79.	57

Page

Table 23: Number and Rate of Hospitalizations (per 100,000) in General Hospitals and Psychiatric Institutions, by the Five Principal Diagnoses of Mental Illness, for Each Sex and Age Group, Canada, 1978. 74

Table 24: Average Annual Number of Bed-Days per Individual by Age and Sex, 15-24, Canada, 1978-79 75

Table 25: Number of Major Activity-loss Days and Average per Individual by Major Activity, by Age and Sex, 15-24 Year, Canada, 1978-79 76

Table 26: Population by Frequency of Consultations with a Medical Doctor during the Last Twelve Months, by Age and Sex, Canada, 1978-79. 77

Table 27: Trends in the Main Indicators of Hospital Use, by Age Group, Canada, 1972 to 1978, and 1980-81. . . . 78

Table 28: Life and Survival Expectancy (in Years) at Various Ages, by Sex, Canada, 1931-81 79

Table 29: Mortality Rate per 100,000 Inhabitants by Age and Sex, 1961-1982. 80

Table 30: Five Major Causes of Deaths (rates per 100,000) by Sex and Age Group, 15-24 Years, Canada, 1961 and 1981. 81

Table 31: Mortality Rate per 100,000 Inhabitants in Highway Accidents or Through Suicide, 15-24 Years Old by Sex, Various Industrialized Countries, 1978 82

Table 32: Mortality Rate (per 100,000 inhabitants) Following Traffic Motor Vehicle Accident, by Age and Sex, Canada and the Provinces, 1984. 83

Table 33: Suicide Rate per 100,000 Inhabitants by Age and Sex, Canada, 1961 to 1982 84

Table 34: Suicide Rate, per 100,000 Inhabitants, by Age and Sex, 15-24, Canada and Provinces, 1961-1981 85

Table 35: Percentage of Suicides by Means Used, by Age and Sex, Canada 1981. 86

Table 36: Number and Rate of Hospitalizations (per 100,000 Population) Following Suicide Attempts or Self-inflicted Injuries by Age and Sex, for Five Canadian Provinces in 1980-81 87

Page

Table 8: Percentage of Students who Used Drugs or Alcohol in the last Twelve Months, by Age, Ontario, 1977, 1978, 1981, 1983. 58

Table 9: Illicit Narcotic Drug Users in Canada Known to the Bureau of Dangerous Drugs, by Sex and Age-group, 1956 to 1982. 60

Table 10: Population by Class of Drug Use, by Age and Sex, Canda, 1978-79. 61

Table 11: Percentage of Sample who had Used Specific Types of Prescribed Drugs, According to Socio-economics and Demographic Charateristics, Canada, 1977. 62

Table 12: Population 15 Years and Over by Level of Physical Activity, by Age and Sex, Canada, 1981. 63

Table 13: Population by Frequency of Consultations with a Dentist During the Last Twelve Months, by Age and Sex, Canada, 1978-79. 64

Table 14: Fertility Rate by Age and Synthetic Index of Fertility (per 1,000 Women), Canada, 1970-1982. . . . 65

Table 15: Number of Therapeutic Abortions and Rate per Thousand Women, by Age, Canada 1974-1981. 66

Table 16: Number and percentage of Births Among Single Mothers, by Age, Canada, 1979, 1980, 1981 67

Table 17: Number and Distribution of Therapeutic Abortions, by Age and Province of Residence of the Woman, Canada, 1981 68

Table 18: Number of Cases and Rate (per 100,000) of Notifiable Sexually Transmitted Disease by Age Group and Sex, Canada, 1980-81 69

Table 19: Population 15 Years and Over by "Affect Balance Scale" Scores, by Age and Sex, Canada, 1978-79 70

Table 20: Percentage of Respondents who have Experienced the Emotion, by Age, Canada, 1982. 71

Table 21: Population 15 Years and Over by "Health Opinion Survey" Scores, by Age and Sex, Canada 1978-79 72

Table 22: Number of Separations and Rate (per 100,000) in General Hospitals and Psychiatric Institutions, by Diagnosis of Mental Disorders, by Sex and Age, Canada, 1978 73

Symbols Used

In the text:

* Word defined on page 47.

In the tables:

.. Unavailable number

... Not appropriate

\- Nil or zero

— Small amount (data with a margin of error equal to or larger than 40%, or with a sample size smaller than 15)

Q Large sampling variation

Introduction

Interest in the health of young Canadians may appear to be of somewhat secondary importance in relation to major priorities concerning this group, such as access to higher education, career choices, unemployment or marriage.[1] This is true if, in considering health, we look only at physical well-being or medical symptomatology. Health represents a state of well-being whose characteristics go far beyond this narrow definition, which is limited to the body. An individual will consider himself, or be considered, ill if he feels mentally unwell or engages in behaviour or adopts habits which prevent him from properly functioning socially. Here we refer to the physical, mental and social aspects proposed by the World Health Organization to define health. This definition will serve as a framework for the overview of studies concerning the health of young Canadians. Such a notion, regardless of how broad it is, does not allow us to emphasize the other, more positive, aspect of health. When we speak of well-being and a harmonious state, we do not make sufficient reference to the individual's numerous resources which are activated with a view to ensuring the organism's fullest development, the ability to enjoy life, and to feel at ease and creative in the company of others.[2]

To fully enjoy such health and avoid illness, individuals must take concrete steps, adopt the appropriate living habits and not rely exclusively on genetic traits or psychic resources acquired during childhood. The first step consists of avoiding the consumption of toxic products, drugs or detrimental foods, and dangerous behaviour. On the other hand, initiatives such as participation in sports, the search for a balanced diet, and maintenance of proper weight will probably ensure a higher quality of life. The first series of behaviours is related to prevention, while the second is more closely linked to an active process of immunization and a search for self-fulfilment.

Taking stock of the health of young people entails an operation whose importance goes beyond a simple epidemiological summary, on the basis of which we will attempt to make a number of observations in order to better understand social causes, and seek methods of improvement, or ways of prevention. Such an undertaking, which consists of analysing factors which alter conditions of vulnerability, may occasionally hide the veritable importance of such factors when they are not simply reduced to statistical variables. It is necessary to know how to restore the observations on behaviour, attitudes displayed or the environment to their full macrosociological significance. It is here that we become aware that we are at the heart of a group's culture when we endeavour to study its health. Behaviour and attitudes noted during the course of studies of the population are highly significant. An entire field of social representations governs the edification of a certain reality, and encourages

---

1 According to a study carried out among 4,500 French-speaking adolescents in the Montréal region, health ranks first among a series of values such as friendship, achieving one's goals and so forth. Cf. J.F. Saucier, 1981a.

2 We will refer to this kind of health, usually called positive, using the term health only, to avoid a pleonasm.

set behaviour. Improving health often means wanting to modify habits which are frequently deeply rooted; this in turn implies changing a way of thinking and a culture. Before change appears, it is necessary to break with established beliefs and define a new will to live. This concern must be present throughout this document, although in order to deal with the analyses in various studies on their own ground (that is, on a more microscopic, individual level), this perspective, clearly, can only be adopted in the conclusion.

The main objective of this paper is to highlight the psychosocial factors related to certain health phenomena. In our comments, we will attempt to restrict ourselves to well-founded data and hypotheses. Obviously, the reader will be left waiting for more when such data and hypotheses are not to be found in the literature.

May we add that this review, while modest in scope, proposes to broach most aspects related to the health of young people.[3] This undertaking obliges us to limit ourselves to the main conclusions of work already accomplished, without dwelling on technical details, which would occasionally be desirable. We have chosen to incorporate a number of provincial or regional studies which, without claiming to be representative of the country overall, offer very valuable information and reflections on a broad range of young people. However, it would be unrealistic to want to cover all of them. We were pleasantly surprised, in this respect, to note how productive Canadian researchers are, and were frustrated not to be able to do justice to each of the studies. In several areas, we had to be content with summary articles.

This study deals with young people aged 15 to 25; occasionally, different divisions in certain analyses reported will exceed these limits. Where possible, we will mention differences between the sexes, other age groups and (less frequently) social classes and provinces; at the same time, we will situate a number of trends in the current international context. Despite this fairly broad division, we are aware that we are speaking of an "average" young Canadian who is often the abstract synthesis of a multitude of individuals and sub-groups, which are frequently highly diversified, although the similarity of the problems they share provides them with a common experience throughout the country. On the other hand, we do not always refer to the same groups or cohorts* of young people; we will discuss young people in the 1970s almost as frequently as those in the 1980s, because of the delays in publishing the results of studies and the absence of recent data in certain fields.

Given that we wish to emphasize certain psychosocial aspects of health and illness, we will begin by analysing living habits which affect health, then examine indicators of health and illness.

---

3 The tables from Statistics Canada's research report, Canadian Youth: Perspectives on their Health were used as basic material for this study.

1. Lifestyle

Many types of behaviour directly or indirectly affect physical or mental health, whether immediately or in the long term. I. Waldron (1976) has hypothesized that nearly two-thirds of the difference in life expectancy between males and females in the United States is attributable to violent deaths, diseases related to bad habits, or a poor work environment. According to the author, smoking, drinking and "dangerous behaviour" are mainly responsible for differences in mortality between the sexes. This chapter will deal with aspects of lifestyle related to health, beginning with alcohol consumption.

1.1 Alcohol

Alcohol consumption is a social ritual and an instance of simple, individual behaviour. Consumed in moderation, alcohol may have beneficial effects on health, although such advantages have been more clearly demonstrated with respect to the elderly than in the case of young people (Mishara and Kastenbaum, 1980). Alcohol abuse may also adversely affect physical and mental health and social relationships. In this section we will examine the indicators of alcohol consumption by young people, the problems it creates among them and preventive programs.

1.1.1 Alcohol consumption

Whitehead (1984) has written a very thorough report on epidemiological studies concerning young drinkers in Canada. We will refer extensively to this study in this section.

Four national annual studies were carried out between 1976 and 1979 (McGregor, 1979); they do not indicate any increase in the proportion of young drinkers during this period. Approximately two-thirds of those aged 15 to 20, and nearly nine out of ten young people in the 20-29 category stated that they consumed alcohol.

Alcohol consumption is not always an abuse. Various studies have been conducted on the topic. A comparative table (Table 1) shows the main results.

A report published by Statistics Canada (1981a) considers a "heavy" drinker to be one who has 14 drinks and more a week. This level of consumption may pose more of a problem among the young because the drinks are consumed in one evening or on the weekend. It is estimated that 12% of males and almost 4% of females aged 18 to 20 are heavy drinkers. In the 20-29 cohort, the rate rises to 20% among men, and 5% among women. It is interesting to note that the data from the Canada Health Survey (Statistics Canada, 1981b) presented in Table 2 indicate higher rates[4]. Here, it is estimated that 13% of men and 6% of women in the 15-19 cohort are heavy drinkers, when the upper limit of 14 drinks per week is taken into account. Among those aged 20 to 25, nearly 31% of men and 8% of women are heavy drinkers.

---

[4] Results from Canada Health Survey are probably lower than the actual rates of consumption as heavy drinkers are more inclined to lie during studies, and state that they consume less than they actually do. We also suspect that they are more numerous among those who refuse to answer.

The Canada Health Survey (Statistics Canada, 1981b) also suggests that younger cohorts* begin to drink earlier than older ones. However, it is hard to determine to what extent, as each older cohort includes individuals who have started drinking late, which obviously contributes to raising the average age at which the first drink was consumed in this cohort.

Provincial studies provide additional, very useful data on high levels of consumption. In a Gallup Poll carried out in British Columbia in 1979, 1.6% of those in the 18-29 cohort stated that they consumed three or more glasses of alcohol per day. A study carried out in Saskatchewan among 738 unmarried young people aged 15 to 20 (Weston, 1980) reports a higher level of consumption than that mentioned above. The monthly average is 13.3 ounces of alcohol, which is equivalent to 22 bottles of beer, 3 glasses of wine and 8 cocktails. With respect to males, in our opinion these figures must be multiplied by a coefficient of 1.25 in order to take into account sexual differences. The author adds that the fact that it was summer may explain this fairly high average rate of consumption. Murray's study in Manitoba in 1977-1978 contained an original question: respondents were asked if they consumed eight drinks one after another at least once in awhile. Nearly 50% of those aged 18-19 answered yes; this rate falls to 43% in the 20-29 category, then continues to gradually fall according to age.

Regional studies also provide some information of interest to us. Once again, what is most striking is not so much the average rate of alcohol consumption as the fact that considerable amounts of alcohol are consumed when people decide to drink. A study published by Jeune et al in 1978 respecting students aged 1[illegible] to 18 in the southern part of Vancouver Island indicates that, on the average, students got drunk once every six months. The results of a study by Hetherington et al (1977) in three areas of Saskatchewan also indicate a high incidence of "pathological drinkers", that is, those who have gotten drunk four or more times during the preceding 12 months or who declare that they have behavioural problems as a result of drinking, involving a teacher, friends, or the police; or who have driven a vehicle under the influence of a considerable amount of alcohol. Some 38% of grade 10 students and 58% of those in grade 12 are classified in this category. A study carried out among students in physical education in Montréal Cegeps (Lamontagne et al, 1979), where the average age is 18, deems an individual to be an alcoholic when he is intoxicated at least four times a year or is under the influence of alcohol more than once a week, or displays a dependence on alcohol. The results indicate that 14.6% of male and 3.2% of female Cegep students fall into this category, and spend an average of $26 a month on alcohol. In a study undertaken in schools in Edmunston and Fredericton, New Brunswick, Dickie (1978) states that 24.5% of grade 12 boys, and only 4.3% of girls in the same grade, declared that they had had nine or more drinks in a single day. The rate among boys rises to 50% if the ceiling of six drinks in a single day is taken into account. This study also indicates that half the parents claimed to be unaware of the drinking habits of their children in grades 11 and 12.

The heaviest drinking is done among those in the 20-24 category. This may be explained by various factors, including greater resistance to alcohol, less frequent family or professional responsibilities, and the greater importance of drinking as a factor in socialization in comparison with the 25 and over age group.

Of all the Canadian provinces, Alberta and Ontario have the highest number of young consumers in the schools (White & Fallis, 1977). A Gallup Poll confirms this observation (Whitehead, 1984). Another study compared a group of Amerindian students with an equivalent group of white students, according to five socio-economic variables; no significant difference in alcohol consumption was found (Liban and Smart, 1982).

However, the rates of alcohol consumption do not inform us about the problems related to alcohol consumption. This will be dealt with in the next section.

1.1.2 The problems related to alcohol consumption

Epidemiological studies provide very little information on the consequences of alcohol consumption. However, we do have sufficient data to understand part of the damage alcohol causes young people. They show that the harmful effects are felt in a number of aspects of young people's lives: achievement at school, relations with their elders and peers, legal problems and dependence. Here are the main observations which have been made to date.

The Longwoods Research Group (1982) study carried out among young people aged 12 to 17 in Alberta and Manitoba asked those who had had at least three drinks during the preceding six months (N=395) what type of problems they had experienced because of alcohol. According to the calculations effected using Table 3 prepared by Nutter (1983), 3% of all students said they had problems at school, 12% with their friends, 9% with their best friend of the opposite sex, and 19% with their parents.[5] Moreover, 8% stated that they had had a problem with the police, while 11% admitted to having driven after heavy drinking. In the study carried out by Weston (1980) cited above, 6% of those who drink admitted to having a problem; 30% said they had tried to reduce consumption. In a survey carried out by Murray (1978) in Manitoba, of all the cohorts, young people aged 18-19 obtained the highest score with respect to social problems related to alcohol. Another disturbing result is reported by White and Fallis (1977), who carried out a survey in secondary schools in southern Ontario. More than 5% of the students claimed to have missed school at least once during the preceding four weeks because of alcohol. On the basis of various trends, it may be assumed that this rate doubles among school boys aged 14 or older. In a study published by Smart and Liban (1981), carried out among a number of households, 39.4% of young people aged 18 to 25 in Durham County in Ontario admitted to having suffered a symptom generally associated with alcohol dependence during the previous year. The symptoms were having felt the need to reduce their consumption, having suffered memory

---

5 Our calculations are based on all school children, not just the drinkers (63%) who make up the basis of Table 3. We are reproducing the original table because the division is useful.

lapses, or having consumed alcohol upon rising. Moreover, 27% of respondents in this cohort stated that they had experienced a serious behavioural problem related to alcohol. In the study undertaken in Edmunston and Fredericton mentioned earlier (Dickie, 1978), 4% of students from grades 9 to 12 had already been involved in traffic accidents after having drunk, and 14% of grade 12 students claimed that alcohol had already hindered the preparation of a course or an exam. In a study carried out at the secondary level by Killorn (1982) in Prince Edward Island, it was found that 20% of students who consume alcohol had missed courses because of it.

We are aware that certain studies apply to regional populations; however, the accumulation of this partial data does suggest that problems related to alcohol may be serious on the national level both now and in the future. First, although its effects on physical health are not extensively felt during this period, under certain circumstances, the rates of social problems cited reach alarming proportions. This situation probably arises from the fact that young people do not tolerate alcohol as well as older people (Smart, 1981). Moreover, these problems do not seem to merely be the invention of adults, as young people have admitted to experiencing them; they concern relationships with both, peers and adults. Young people also admit to drinking excessively and to endeavouring to reduce consumption.

The fact that young people maintain certain types of consumption into adulthood is a source of concern. According to Fillmore (1975), although repeated intoxication tends to disappear among males, such is not the case among females. On the other hand, alcohol consumption associated with problems (which certain Canadian studies indicate is very high) tends to persist among men, but not among women.

1.1.3 Educational programs

The Gallup Poll (1983) carried out among 2,400 young Canadians aged 12 to 29 provides valuable information respecting prevention. Of course, young people see positive aspects of alcohol consumption. Almost 70% of drinkers say alcohol helps overcome shyness and 60% say it can make the individual feel like part of the group. However, the great majority of young people are aware of the negative effects of alcohol consumption. Some 93% of respondents believe that alcohol consumption can make driving a car or riding a bicycle dangerous, 82% believe that it can become a habit, while 83% maintained that alcohol consumed by a pregnant woman may cause harm to the unborn child. Contrary to cigarettes and cannabis, only 27% of respondents believe that there is no set age at which one should start to drink, which may mean that most of them feel that this type of consumption is easier to control, or less detrimental than the other two. Nearly 80% of those questioned claimed to be aware of anti-alcohol campaigns. If young people drink to a dangerous degree, it is not for want of knowledge or because of poor attitudes generally. We will discuss this question further in the conclusion.

With respect to preventive programs, the overall assessment of their effects on behaviour is hardly positive. A number of programs appear to actually encourage greater alcohol consumption (Whitehead, 1984). However, evaluations of the better organized programs show heartening results. What is to be learned is that it is not a question of launching crusades filled with good intentions but of properly planning programs on a solid theoretical

base. Present knowledge, while leaving several points still unclear, provides some information on what to do and what not to do. Very little is known about what precisely motivates people to drink, nor do we know whether a permissive attitude encourages heavier drinking (Smart, 1981). We know, however, that raising the legal drinking age is a measure that would be hard to apply. According to Smart (1981), raising the price of alcohol would likely have a more direct effect, and would meet with wider approval from the population at large. Whitehead (1984) concludes his analysis by advocating a strategy which consists of delaying for as long as possible the introduction to alcohol rather than one based on vaccination, which consists of having young people drink early on in the more protected family environment. Indeed, it does not appear that precocious socialization within the family prevents clandestine consumption outside the home, at least in Canada. Educational campaigns must be based more on positive incentives than on instilling fear or other negative feelings among drinkers (Kohn et al, 1982).

Briefly, it may be said that alcohol is a very serious problem among young Canadians, although there is not necessarily any reason to believe that consumption is increasing. The percentage of young people (which, in our view, is high) who, from the age of 15, claim to experience problems because of their alcohol consumption is sufficiently high to warrant the continuation of preventive campaigns. Moreover, alcohol leads not only to health problems, but also hinders the socialization process among young people, by causing problems with those around them. As we will see in Part 5, it also causes numerous traffic accidents.

1.2 Tobacco

1.2.1 Tobacco consumption

Smoking undoubtedly causes fewer social problems among young people than drinking does. However, it is associated with more long-term health problems; this factor was identified as being primarily responsible for the inability to work or premature death in industrialized countries (Millar, 1983). A study carried out in the U.S. (Miller and Gerstein, 1983) claims that the difference in life expectancy between the sexes attributable to natural causes after the age of 30 is explained entirely by smoking. The death rate among male smokers is 70% greater than that for non-smokers. Even among those under 29 the association between smoking and admitting to poorer health is not negligible: only 57% of smokers under 29 feel they are in excellent or very good health, compared with 79% of non-smokers (Gallup Poll, 1983). In comparison, the ratio of users and non-users of cannabis who feel that their health is satisfactory is 65%:76%, and of alcohol, 67%:75%.

Investigations of tobacco use among Canadians carried out under studies on the labour force provide a fairly complete picture of long-term trends, although data respecting adolescents are almost certainly an underestimation, as answers are supplied by third parties (Millar, 1983). At the outset, results concerning males make us optimistic (see Table 4). Between 1966 and 1981, the percentage of regular smokers declined significantly in all cohorts*. The reduction in absolute terms is less marked among those aged 15-19 (12%) and reached 20% in the 20-24 category. It is normal for the decline to be more pronounced in the group which initially included a greater

proportion of smokers.[6] In both age categories, a relative drop of one-third in the number of smokers has been noted. The relative percentage decline in the number of smokers is similar throughout the various regions, except perhaps in British Columbia, where the relative drop of 41% among those aged 20-24 is the highest.

With respect to females, the absolute increase in regular smokers is very slight among those aged 15-19 (3%) and is accompanied by a similar drop in the 20-24 category (3%, see Table 5). There has been an appreciable increase in Québec which, in 1981, put this province in first place by a strong 10% margin, in absolute terms, over the Atlantic region, which ranked second. Some 4% more women than men smoke regularly in Québec among those aged 20-24; in the country as a whole, the percentages of smokers of both sexes in this cohort* are quite similar.

The Canada Health Survey (Statistics Canada, 1981b), in which respondents completed a questionnaire in the privacy of their own homes, presents a slightly less optimistic picture of the situation than the preceding study. This difference is undoubtedly attributable to the fact that the information was reported directly, without the assistance of a third party. The percentage of regular smokers is between 7% and 10% higher among those aged 15-24 than in the study discussed previously, while the difference is only 4% to 5% higher for the population overall (see Table 6).

It is probably the percentage of heavy smokers which will increase the risk of disease and death. Such risks are less pronounced among those aged 15-19 than in the 20-24 category, because the former group includes proportionally more light smokers (38%, compared with 21% in the latter group) (Miller, 1983). Differences between the sexes are minimal with regard to long-term risks. Distribution according to the number of cigarettes smoked is virtually the same, regardless of sex. There are slightly more male than female smokers who smoke cigarettes with high nicotine content.

In the Canada Health Survey (Statistics Canada, 1981b), in the 20-24 category, 18% of male respondents are heavy smokers consuming more than 22 cigarettes per day, compared with only 9% among females (see Table 7). This result may mean that males run greater risks than females of suffering from diseases attributable to smoking if the vulnerability threshold is similar for both sexes.

We will cite only a regional study carried out among students in Winnipeg between 1960 and 1980, as it has the double advantage of being comparative over time and of covering at least 2,000 students in grades 10 to 12 (Morison, 1982). Data reveal that the drop in the percentage of heavy smokers (at least one packet of cigarettes per day) is very pronounced among boys (from 32% in 1960 to 17% in 1980). There is a greater proportion of heavy smokers among girls (from 14% in 1960 to 23% in 1980).

---

6 An analysis by Collishaw (1983) corrects these statistics by taking into account cigarettes sold. According to this author, the underestimation of tobacco consumption in government studies was greater in 1981 than in 1975. The underestimation of the number of smokers is about 15% among those aged 15-19; in the other age groups, it is often less than 5%.

The Canada Health Survey (Statistics Canada, 1981b) also indicates that among respondents aged 20-24, about 65% of those who have gone beyond secondary school are non-smokers or occasional smokers, compared with 38% among those who have not.

With respect to the age at which habitual smokers began to smoke, slightly more than 25% of those aged 15-19, and about 15% of those in the 20-24 category began before the age of 14. Two-thirds of the respondents began before the age of 16. On the other hand, a review of the literature (Tremblay et al, 1981) on smoking among pre-adolescents, covering a number of Canadian and foreign studies, suggests that the period between the ages of 11 and 13 is critical with regard to acquiring the smoking habit.

1.2.2 Psychosocial factors

The Gallup Poll (1983) indicates that young people are relatively aware of the risks of smoking: 91% believe that it can cause lung cancer, 87% think that it can be habit-forming, and 74% stated that it can cause health risks among children born of mothers who smoke; on the other hand, 55% of smokers believe that it can help combat nervousness. Three of four respondents said that people should never start smoking. Most of them (four out of five) claimed to be informed on anti-smoking campaigns. As we have done with respect to alcohol, we must emphasize, to conclude, that young people do not continue to smoke out of ignorance. They often feel guilty about smoking and are aware of the dangers inherent in doing so, but are unable to stop. The personal and cultural motives which lead to, and sustain, this habit should be investigated further.

Studies on why young people start smoking can provide some useful information for prevention. A review by Tremblay et al (1981) of a group of studies from various countries offers the following conclusions. The influence of parents and older siblings is determinant. If they all smoke, the likelihood that the younger child will smoke is four times greater than for a child whose parents and siblings do not smoke. Other studies show that earning pocket money and regularly spending time at youth clubs promotes the development of the smoking habit. The behaviour of teachers seems to have little to do with their students' habits. Smoking is also associated with a delinquent personality profile and the tendency to take risks such as not doing up one's seat belt. Some studies, including one conducted in Canada, do not, however, confirm these conclusions. A tendency toward conformity is also associated with smoking.

In brief, we can cautiously state that smoking has declined slightly in the younger cohorts*, but there is no reason to give up the fight. It is also an area where preventive measures must be taken early, because of the ease with which smoking becomes a habit once it is started. The family seems to be the ideal target for preventive programs.

1.3 Non-Medical Drugs

1.3.1 Consumption

Drugs, even the weakest ones such as cannabis, may cause serious health problems when consumed in excess. They may hinder young people in the accomplishment of certain developmental tasks; for example, they may eliminate

the motivation necessary for studying or any other type of undertaking. They may also lead to addiction*. Some 26% of all users and 56% of daily users reported experiencing recurrent effects, that is, feeling that they were under the influence of drugs without recently having taken any. Moreover, 45% of all users and 60% of daily users indicated that they had been subject to negative experiences such as disorientation, anxiety or unpleasant effects (Smart and Adlaf, 1982). Drugs used by athletes may also damage the body or lead to an increased risk of injury.

Methods of investigating the use of illegal drugs are characterized by a serious problem of validity (Smart, 1978b). Records of official cases only include the most serious among them. Studies carried out in private homes run the risk of not reaching many young people who use drugs. During studies carried out in schools, heavy drug users are often absent when researchers visit the schools. Moreover, very little data is available on the non-student population (Smart, 1980).

In the Gallup Poll (1983), 16% of those aged 12-29 stated that they had consumed cannabis during the preceding year; among those in the 12-19 category, less than 2% were daily users. Studies carried out in schools generally indicate higher rates than those just mentioned. Moreover, the results invalidate the hypothesis according to which cannabis replaces alcohol or tobacco. Among cannabis users, twice as many are smokers and drinkers as among non-users, and this double consumption may increase health risks. To our knowledge, one of the few studies dealing with the 15-24 cohort was carried out in Calgary in 1971 (Currie et al, 1977). According to this study, 26% of young people in this cohort stated that they had consumed cannabis during the preceding six months. This rate is higher than the Canadian average for the same period, according to the authors, who explain the difference by the fact that consumption is generally higher among adolescents from well-to-do families in Canada. The study compares such students with school leavers, and shows that among the latter, those aged 17-18 consume more cannabis. It further points out that consumption continues to increase after the age of 16 within the school system. Smart (1970) had noted a decline in consumption, which he attributed to the fact that a certain percentage of consumers quit school after the age of 16.

A series of studies in Ontario secondary schools established that 40% among those aged 16 and over (Smart et al, 1983) had consumed cannabis at least once in the preceding 12 months. This figure appears to have dropped slightly in 1983, after rising until 1979. Figures for 1983 covering other drugs used by those 15 and over are indicated in Table 8. The report notes a slight drop in the use of cannabis and a rise in the use of non-prescription stimulants, barbiturates and tranquillizers. In general, the frequency of drug use is quite low, except for alcohol, tobacco and cannabis. On the other hand, there are more drugs than before which males consume to a significantly greater extent than females. The same type of study was undertaken in rural secondary schools in Alberta in 1971 and 1974 (Bakal et al, 1975). The data obtained do not enable us to differentiate between young people over 16 and those younger, but the overall results are sometimes higher and sometimes lower than those noted in Ontario between 1977 and 1981. Obviously it is hard to compare results obtained from different milieux at different times.

We mentioned earlier that records such as those kept by the Bureau of Dangerous Drugs only cover serious cases. Data covering the period 1956 to 1982[7] indicate an almost geometric increase in the number of recorded cases among those aged 15 to 25 up to 1973, which is much more pronounced than for other cohorts (Rootman and Richman, 1975). While the likelihood of appearing in the records increased with age in 1956, 1971 appears to mark a transition in which the consumption of hard drugs became much more frequent among those in the 20-24 cohort (see Table 9). More recently, the 25 to 30 cohort accounts for the greatest number of recorded cases. What is of particular interest is the considerable drop of approximately 30% among 15-24 year-olds between 1978, a record year, and 1982. The sex ratio is constant, with three times more cases among men than among women.

To conclude, it may be said that, following the Second World War, drug use in North America was more prevalent among blacks and older people and that it then penetrated the middle and upper classes through the counter-culture movement. It has become a phenomenon which extends far beyond subgroups in the counter-culture who are seeking new life experiences. Drugs are not used to replace other more traditional substances such as tobacco and alcohol, but to complement them. Regardless of the nature of the drugs, they are consumed more heavily by young people aged 20-24 and those who are well-to-do.

1.3.2 Pyschosocial factors

Several studies, carried out mainly in the United States, deal with the origins of marijuana smoking habits. Here are the main findings of a review of the literature undertaken by Bibeau and Valla (undated). The average period of initiation for this type of consumption falls between the ages of 15 and 17; this age tends to fall in more recent studies (1975-1979). No less than nine major motivations or explanations are suggested by various authors, including alienation/rebellion, a search for pleasure and stimulation, relief from anxiety, and the need to define oneself. With regard to personality factors, the authors do not concur in associating the consumption of marijuana with nonconformity. It seems fairly obvious that delinquency is associated with greater consumption, without being the cause of it. Psychosocial factors are very important; friends play a decisive role in the individual's acquisition of the habit, although the network of consumers does not constitute a veritable subculture. Parental attitudes also play an important role; a lack of interest in the child is the dominant factor in various studies.

The Calgary study (Currie et al, 1977) provides some information on the influence of the family in relation to consumption, which is twice as high among the children of divorced or separated parents, or those who regularly consume drugs themselves. Consumption quadruples among those whose brothers or sisters take drugs, or who are less influenced by religion.

The Gallup Poll (1983) once again provides some insight into the risks associated with the use of cannabis among young people. Approximately three-quarters of the respondents stated that the use of cannabis by a pregnant women may affect the unborn child, that consumption may affect anyone driving a vehicle or riding a bicycle, become habit-forming, or be detrimental to studies. The greatest advantage of cannabis, according to users of the drug, is the pleasure it provides. Half of the respondents also stated that cannabis can reduce nervousness or foster socialization. More than three-quarters of them also stated that one should never start to smoke cannabis.

---

7 Data collection has been completely different since 1976; it is impossible to directly compare results before and after this date.

If young people continue to take drugs, it is not because they are unaware of the potential dangers involved in doing so; most of them actually adopt negative attitudes in this respect. Thus, it is not necessarily basic information that is lacking. What is needed is a deeper knowledge of the process by which individuals begin to use narcotics or soft drugs, so that preventive programs can be planned more effectively. As well, some studies suggest that heavy users present more problems that the others. Since, however, the line between normal and pathological use is hard to draw, it is better for preventive programs to be aimed at all young people (Smart, 1978a).

1.4 Medical Drugs

Society is becoming increasingly ambivalent about certain medical drugs, especially psychotropic ones; doctors and users of health services have misused them. Moreover, the problem is compounded by the fact that certain medicines are taken without a prescription. Consumers can develop an habituation which may necessitate detoxication. However, it should be noted that some individuals may benefit from such medicines when they use the doses recommended.

The Canada Health Survey (Statistics Canada, 1981b) includes some data on the consumption of medicine during the previous two days (see Table 10). Declared consumption is considerably lower among young people than among their elders. Among 15 to 25 year-olds, consumption of the medical drug most used after vitamins, analgesics, is approximately 10% and is almost twice as high among women as among men.

On the other hand, the consumption of psychotropes is quite low. A national study carried out in 1977 (Pool, 1977) also shows that the frequency of psychotropic drug consumption over a period of two weeks is relatively low among those aged 18-29 (less than 2% for sedatives and tranquillizers; see Table 11). Although psychotropes are more frequently consumed by young women in the United States, such is not the case according to Canadian studies overall, which indicate that middle-aged females are the heaviest consumers (Cooperstock, 1977). A more recent review of the literature concludes that the use of psychotropes in Canada is currently increasing in relation to age (Cooperstock and Parnell, 1982).

The study carried out in Ontario secondary schools paints a slightly different picture of the situation as it covered prescription and non-prescription drugs and questioned respondents about consumption during the preceding 12 months (see Table 8). About 14% of those aged 16-178 took prescribed barbiturates at least once and 11%, non-prescribed barbiturates. Slightly more than 6% of respondents in this age category used prescribed stimulants, but non-medical use reached 28%. About 9% of respondents used prescribed tranquillizers; non-medical use was below 7%. In an earlier study, Fejer and Smart (1973) found that only 10% of Canadians who took tranquillizers and barbiturates had obtained them without a prescription. It is to be noted that non-medical use in relation to medical use is much higher among secondary school students.

---

8 We do not consider those 18 and over as this category may include atypical students (repeaters).

Although the use of non-prescribed medical drugs is not perceived as a problem particular to young people, this observation should be tempered with certain reservations. Young people consume proportionately more non-prescription drugs than their elders; the non-medical use of stimulants, in particular, may be a source of concern. Young people probably consume these products to increase performance in sports or during exams or to lose weight. We might well wonder if their goal is not to emulate at any cost models for success imposed by adults.

The case of non-medical drugs is similar to that respecting alcohol. The problem does not arise from the average amount consumed, but from the manner in which such drugs are consumed. An adolescent may consume little during the year, but increase consumption during periods of considerable stress. Many of these non-medical drugs are used in suicide attempts, which are very prevalent among young females, as we will see later. An attempt should be made to better control the distribution of medical drugs; doing so would likely reduce the number of suicide attempts.

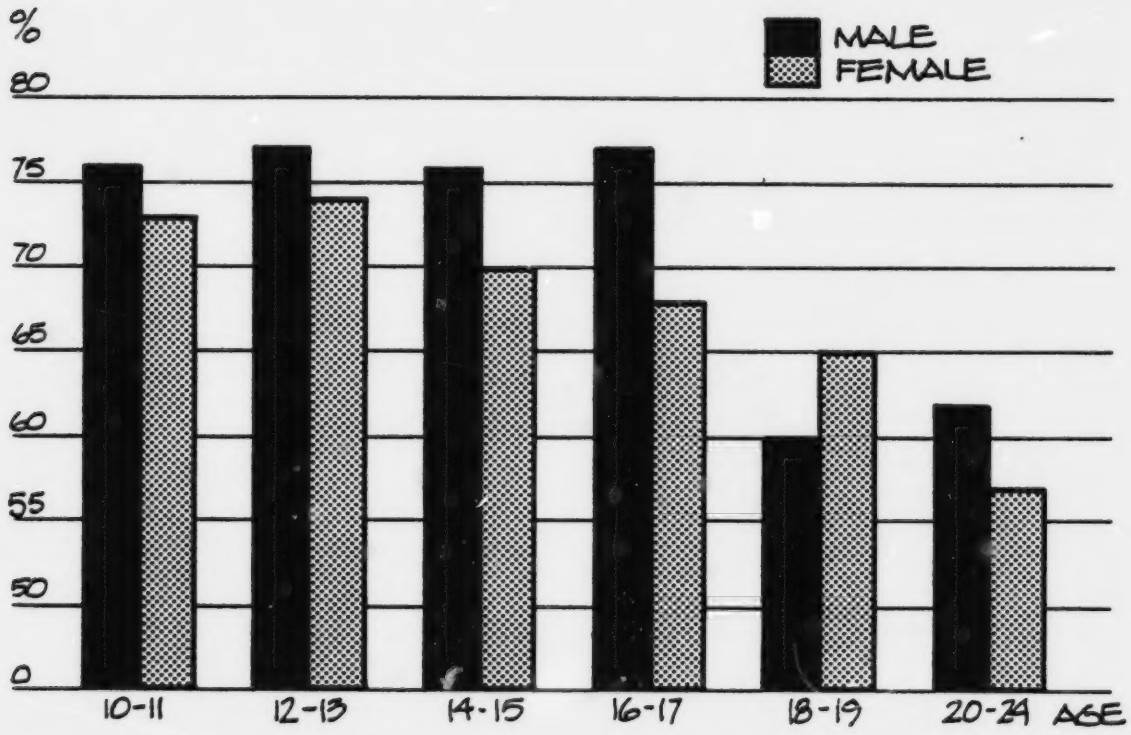
1.5 Physical Activity

There is no doubt that Canadians generally favour physical activities and participate more extensively in them outside the school and the work place than in the past. Unfortunately, the direct benefits of such activity on health become apparent over the long term and are more difficult to quantify than the damage caused by tobacco and alcohol. Physical activity can improve cardio-vascular health and prolong the number of years of good health the individual enjoys, that is, without restrictions on activity. To this must be added numerous indirect health benefits which arise from greater awareness of our bodies, and the adoption of other positive behaviour (Fitness Canada Survey, 1983a). Physical activity may lead to healthier, more regular eating habits, better sleep, improved awareness of the warning signs of various diseases and to the abandonment or more moderate consumption of cigarettes and alcohol.

The Canada Health Survey (Statistics Canada, 1981) indicates that young people are much more active than adults. The challenge consists less in encouraging the former to get exercise than in maintaining their level of physical activity beyond adolescence. Table 12 highlights the important decline in physical activity beyond the age of 20. The proportion of active males falls from 69% to 62% in the 15-19 and 20-24 cohorts*, respectively. The corresponding figures among females are 67% and 57%. The decline is gradual among females, while it drops precipitously among males around the age of 17-18 (see Figure 1). With respect to regions, the percentage of active young people increases gradually from east to west.

FIGURE 1:

PERCENTAGE OF THE POPULATION DOING REGULAR PHYSICAL ACTIVITY, BY CERTAIN AGE GROUPS AND SEX, CANADA, 1981



SOURCES: CANADA FITNESS SURVEY.
CANADIAN YOUTH AND PHYSICAL ACTIVITY.
- OTTAWA: FITNESS AND AMATEUR SPORT, 1983b
AND UNPUBLISHED SPECIAL TABULATIONS.

Pleasure and well-being are the reasons most frequently cited for exercising; the absence of it is mainly explained by a "lack of time" and "inadequate facilities".

The Canada Fitness Survey (1983a) makes several recommendations concerning programs designed to encourage people to exercise. It notes important differences according to sex and concludes that promotional strategies should be different for the two groups. It might also be noted that the marked decrease in exercise among males at the end of adolescence may be linked to a loss of the guidance provided by the schools. Programs should also take into account the need for socialization among young people, in order to encourage them to exercise.

A number of specific questions are worthy of attention. Is the pronounced drop in levels of activity at the end of adolescence, which is more prevalent among males than among females, due to the fact that the sports activities organized by the schools are no longer a part of the young people's lives? If secondary schools play a significant role, in what way might other institutions assume this role once students leave secondary school?

1.6 Nutrition and Dental Hygiene

Sound nutrition is also closely linked to the maintenance of good health. The consumption of fruit and a reduction in that of sweets, fats and salt may help lower the risk of circulatory diseases, and contribute to promoting normal weight.

The report on Canadian Youth and Physical Activity (Fitness Canada Survey, 1983b) shows that almost 25% of 16 to 20 year-olds usually do not have breakfast and that an almost equal percentage eat a breakfast containing no protein.

A study carried out in 1978 (Beals et al, 1981) among a group of eighty-two 16-17 year-old students from three regions in Ontario indicates that between-meal snacks may be good or bad. Among the foods consumed more than twice a week by boys, soft drinks rank first, followed by bread, sandwiches and milk. Among girls, milk and chewing gum were the most frequently consumed.

Examples set by adults, or a lack of supervision, are partly responsible for poor nutrition among young people. Experience has shown that where young people are offered more wholesome food, they will change their eating habits as a result. The introduction of apples and milk in vending machines in secondary schools in the Okanagan region of British Columbia led to a 27% drop in sales of chocolate, and a 42% drop in sales of soft drinks (Crawford, 1977).

A special dietary problem peculiar to young females, which is beginning to attract the attention of researchers, is the obsession with slimming. Since the weight curve reaches a peak at the age of 19, then falls until the age of 30 (Fitness Canada Survey, 1983b), it may be that concern over weight increases at the end of adolescence. Millar (1983) has presented the hypothesis, yet to be verified, that a number of young women start smoking in order to control their weight. A Canadian study carried out in 1983 among 770

university women[9] reveals that more than 9% of respondents are in the habit of inducing vomiting as a means of reducing weight (Cameron, 1983). The same source reports a study undertaken in the United States which estimated that 7.6% of the respondents resorted to vomiting to control weight. However, another U.S. study shows that an individual whose weight falls on the median for her age group may weigh more than medical norms indicate she should, although she is also less subject than those whose weight falls at other points on the curve to suffering from various diseases (Rittenbaugh, 1982). Preventive medecine indicates that it is obesity, and not excess weight, which is related to a greater probability of becoming ill; however, the correlation is generally weaker than that suggested, while mention is less frequently made of the fact that underweight can be as dangerous for health as obesity.

Good teeth are of primary importance in digestion, as we learn in biology courses. The Canada Health Survey (Statistics Canada, 1981b) indicates that slightly less than 60% of those in the 15-19 cohort visit their dentist at least once a year, as recommended (see Table 13). This rate falls to below 50% among those aged 20-24, and continues to gradually decline with age. In absolute terms, approximately 10% more females than males see a dentist in a given year. The fact that some people have their teeth removed might explain, in part, the drop in visits that occurs as age increases. On the other hand, it is to be noted that among males, there is a sharp drop before and after the age of 15. The percentage of the population which no longers visits the dentist increases from 26% to 42% among males, and from 22% to 34% among females. This reduction in visits is probably attributable to the fact that dental insurance in some provinces ends, which means that it is more for purely economic reasons, rather than because of their attitudes, that young people see dentists less frequently.

---

9 Age is not mentioned.

2. Sexuality and the Reproductive System

Youth marks the beginning of an active sex life. But unlike among people of the previous generation, sexual relations now begin well before marriage and the planning of a first child. Young people meet more sexual partners before marriage and marry at a later age. This change in sexual mores has a number of consequences: higher risk of unwanted pregnancy and the need for abortion; a need for information on contraceptives and accessibility to them; and an increase in sexually transmitted diseases. We shall examine these aspects, beginning with data on fertility.

2.1 Pregnancy and Related Risks

The fertility of young Canadians dropped considerably between 1970 and 1982 (Table 14). The fertility rate dropped by 38% in relative terms among 15 to 20 year-olds and by 33% among 20 to 25 year-olds.

During the same period, therapeutic abortions increased by 25 to 30% in these two groups (Table 15). This means that the number of recorded pregnancies (births + therapeutic abortions) dropped by approximately 10% among 15 to 24 year-olds. This obviously does not take into account abortions performed outside hospitals. Powell and Deber (1982) report that among 15 to 20-year-old Americans, the pregnancy rate is approximately double that of other Canadians the same age.

With respect to the risks of morbidity* and mortality, the children of young mothers are more frequently underweight: 7.9% of babies of mothers aged 15-19 in 1981 weighed less than 2,500 g, compared with 6.4% in the 20-24 cohort, and 5.6% among mothers aged 25-44. The infant mortality rate among mothers under 20 was 28% higher than in the 20-34 category (Health and Welfare Canada, 1983). With respect to the mother, the risk of perinatal complications is higher. Young mothers' physical development may also be hampered: pregnancy may stop the mother's growth and lead to her being underweight in adult life.

Almost 80% of single mothers were between 15 and 24 years old in 1979 and 77% in 1981 (Table 16). In 1981, nearly 60% of women 15-19 who gave birth and 16% of those 20-24 who gave birth were single (Demers, 1985). Powell and Deber (1982) say that in Ontario the proportion of single mothers who decide to raise their child rose from 30% in 1968 to 88% in 1977. The authors believe that this trend also applies in the country as a whole.

Data from the 1981 Census[10] indicate that 42,820 females aged 15-24 were the heads of single-parent families; of that number, 57% had never married. Overall, 3% of women between 20-24 were heads of single-parent families in 1981. The percentage of families headed by a single woman declined by 4% among those aged 15-17 between 1971 and 1981, while it doubled in the 18-24 cohort during the same period (Health and Welfare Canada, 1983). In some provinces, the percentage of single-parent families deviates from the national average among those aged 15 to 25. In Québec, it is about 15% below this average, while in Saskatchewan and New Brunswick, it is about 25% higher.

---

10 See Demers, L. (1985).

The social and health implications of these statistics are tremendous, and they increase as the age of the mother decreases. Among adolescents, one of the most frequent consequences of giving birth is withdrawal from school; this often leads to a halt in the process of psychosocial maturity, which frequently extends to the age of 25 in highly industrialized societies. Such mothers undoubtedly have only limited financial resources, as they can only count on poorly remunerated work (Powell and Deber, 1982). Obviously, this can have repercussions on the child's health, the quality of its nutrition and its psychosocial development. These mothers are probably less well prepared to care for a child as it may be presumed that the birth was unplanned. They will be more frequently subject to periods of depression when they belong to a category of highly vulnerable women, where the following three factors brought to light by Brown and Harris (1979) all come into play: inadequate housing, children at home, and the absence of a confidant. It may also be presumed that problems of social adaptation and mental health will be more frequent among the children of these mothers, who are unprepared to raise a child, and receive little support from those around them.

2.2 Abortion[11]

The rate of therapeutic abortions among young females increased steadily until 1978, to stabilize at around 16/1,000 in the 15-19 cohort, and 18/1,000 among women aged 20-24 in 1981 (see Table 15). Obviously, these figures do not include illegal abortions, or those obtained outside Canada, for which no estimation of number is available.

Therapeutic abortion rates of the provinces and territories diverge more substantially from the national average than those respecting single-parent families. Calculations based on Table 17 show that New Brunswick accounts for less than 1% of abortions when it holds 3% of the population aged 15-24. Québec accounts for only 12% of abortions, although its population represents 27% of the Canadian total for that cohort. Can this be attributed to less tolerant policies in French-language hospitals? This is likely the case. It is for this reason that estimates of uncounted abortions would be extremely useful. Ontario, with 35% of the population of 15-14 year-olds, accounts for 47.8% of the therapeutic abortions carried out in Canada; British Columbia (14% of 15-24 year-olds) accounts for 19.0% of them.

Abortion rates in Canada are relatively low compared with those in other industrialized countries. A comparison of young people aged 15-19 (between 1974 and 1977) in Canada and nine other countries shows that Canada has the lowest abortion rate (Wadhera and Nair, 1980).

Abortions are performed later in the gestation period among women under 20. Between 1974 and 1977, 25% of the women under 20 who sought abortions were beyond the 12th week of pregnancy, compared with 15% among those aged 20 and over (Wadhera and Nair, 1980). The reasons for this delay may include the following: problems in recognizing the signs of pregnancy; refusal to believe they are pregnant; ignorance of the assistance available; and a reluctance to confide in adults. The main health risks of late abortion are: retention of the products of conception (69%), tearing of the cervix (12%), hemorrhaging (8%) and infection (7%).

---

11 See Demers, L. (1985).

Unfortunately, the statistics are not accompanied by a discussion of the psychosocial consequences of abortion. The following problems may be inferred: personal conflicts accompanying the decision to have an abortion; shame in relying on the family in order to find help; attempts to mask the situation within the family, at the place of work or in school for fear of stigmatization; the feeling of guilt which accompanies the abortion; and the fear of subsequently becoming sterile or less fertile. The 1982 Gallup Poll revealed that three-quarters of all Canadians both under and over 25 disapprove of abortion when the sole reason for having one is that the woman is not married, which is the situation in which most women who have one find themselves. It may be assumed that many women who have sought abortions were against them before becoming pregnant.

2.3 Sexual Relations and Contraception

Precocity, the frequency and nature of sexual relations, and the use of contraceptives are behavioural variables which may affect the number of pregnancies or abortions. A report by Sacks (1981), which summarizes recent studies carried out in Québec, Saskatchewan, British Columbia and Ontario, states that 45% of young people aged 15-19 are sexually active; the average age at which individuals in this cohort began such relations was 15.

A series of studies carried out between 1968 and 1978 among unmarried students at the University of Toronto clearly shows that the frequency of sexual relations increased substantially during this period (Barrett, 1980). About 50% of males and females reported having sexual relations occasionally or frequently. The rates are essentially the same for both sexes, which indicates the absence of a double standard; the rate is twice that noted 10 years earlier. Similarly, about 60% of respondents of both sexes claimed to have had only one or two sexual partners, which suggests that promiscuity is not very widespread.

In the review by Sacks (1981), a very high percentage (85%) had not used a contraceptive during the first sexual relation. A study devoted to young people in Saskatchewan, published in 1980, revealed that about 72% of respondents did not use contraceptives (Saskatchewan Health, 1980). The report also indicates that contraception was mainly used by the male during the first sexual encounter: two-thirds of them used condoms, and 6% practised coitus interruptus. With respect to the most recent sexual relation, about 40% of the couples questioned did not use any means of contraception. Among those who do use contraceptives, in half the cases they were used by the female. The Canada Health Survey (Statistics Canada, 1981b) shows that 17.3% of women between 15-19 and 41.7% of those aged 20-24 use birth control pills, which places the latter group among the heaviest consumers of them. Although these figures are derived from a study which is only five years old, percentages may have changed significantly since then. In the university population studied by Barrett (1980), the percentage of those who, in 1978, did not use any kind of contraception at the time of the first sexual encounter was 30% and was 10% among those who had an active sex life. Despite more widespread use of contraceptives among these students, 12.4% of female respondents who had had sexual relations at least once had had an abortion.

The obstacles to distributing information on contraception and to freer sale of contraceptives probably arise from the fear of encouraging precocious sexual relations. We are confronted with the fact that it is precisely during the first sexual encounter that contraceptives are the least used and the likelihood of unwanted pregnancy is the greatest. Does this reluctance arise from a fear among young people that the aura of romance will be eliminated from sexual relations and, especially, their first ones? Or, is it because various situations are less foreseeable that the youngest adolescents are less inclined to use contraceptives? We must recognize that young people are fully sexualized beings, and run even greater risks than their elders by not using contraceptives.

It does appear possible, however, to reduce the number of unwanted pregnancies. Sacks (1981) cites a pregnancy prevention program which led to a 40% drop in repeated pregnancies without causing a marked increase in sexual relations. A study carried out in Alberta among the parents of adolescent girls aged 13-18 shows that 81% of the parents were in favour of instruction on contraception in the schools, while only 54% favoured wider distribution of contraceptives (cited in Saskatchewan Health, 1980). Adults over 24 -- of whom 74% are opposed to full sexual freedom (Gallup Poll, 1982) -- must be made to understand that the distribution of contraceptives may contribute more to reducing the number of unwanted pregnancies than to encouraging sexual relations.

2.4 Sexually Transmitted Diseases

Sexually transmitted diseases are a serious problem among young people. Approximately 11,500 cases of sexually transmitted diseases were recorded in 1981 among 15-19 year-olds, and 50% more cases were reported among women than among men (Table 18). The total number of cases reported doubles among the 20-24 cohort, because there are now three times as many cases declared among males. In reading these tables, account must be taken of the fact that Meltzer (1979) suggests that three-quarters of cases of gonorrhea are probably not reported. With respect to the provinces, Québec and the Maritimes have the lowest rates, Ontario falls in the middle, and the Western provinces have the highest levels, with the Yukon and the Northwest Territories heading the list. Unfortunately, it is impossible to determine whether the differential rates between the provinces are an accurate reflection of reality, or the result of different methods of recording cases.

Wider distribution of condoms might possibly reduce the frequency of these diseases. In this regard, a study carried out by Finkel and Finkel (1975) shows that 38% of adolescents do not want their friends to know they use condoms. A lack of maturity also leads them to believe that they are "different", and are immune to sexually transmitted diseases. An attempt should also be made to make women who have several partners aware of the preventive role of condoms. Information should also be distributed concerning the risk of sterility among women who contract sexually transmitted diseases which remain untreated, and the fact that some forms of gonorrhea become highly resistent to penicillin (Noble, 1982).

3. Mental Health

There is no single indicator of the mental health of a population. Psychological well-being can be evaluated from widely different perspectives, and it is often the convergence of the results obtained from several indicators that make it possible to draw significant conclusions.

One approach consists of examining the most frequently felt emotions. This provides information on general satisfaction in life rather than on the existence of a psychopathological problem. Another approach is the use of mental health scales. They are made up of items describing neurotic symptoms and generally include the following states: anxiety, depression, lack of vitality and demoralization. A high score usually means that the person is going through a crisis or living under great stress without necessarily having a psychopathological disorder. Still another approach is to examine hospital records. The data are quite representative of the rate of very serious disorders such as schizophrenia but are less reliable for minor problems.

3.1 Emotional life

The Affect Balance Scale which is part of the Canada Health Survey (Statistics Canada, 1981b) is more an indicator of satisfaction and well-being than a true index of psychopathology.[12] Table 19 indicates that females aged 15-19 present the highest rate of all the groups in the "negative" category (6.8%), while 3.8% of males in the same cohort fall into this category. Results respecting respondents over 20 show that the differences between the sexes taper off. Data in a study carried out in Montréal (O'Loughlin, 1982) are similar to those in the Canada Health Survey (Statistics Canada, 1981b).

Data in the 1982 Gallup Poll provide a valuable framework for interpreting those in the Canada Health Survey (see Table 20). Respondents had to state whether they had experienced each of a series of 10 feelings during the preceding weeks. The analysis was not carried out on the basis of sex, although the results show that the 18-24 cohort, compared with older people, experiences each of these feelings more often, except two: "on top of the world" (euphoria), where the difference is very slight, and "pleased", (satisfaction) both expressing a feeling of accomplishment. The two emotional states for which young people gave a relatively high proportion of positive responses are "restless" (44%, compared with 28% among those over 25) and "bored" (38% compared with 28%), which seems to indicate that they experience greater frustration in their undertakings. On the other hand, young people feel "proud", "excited-interested" and "upset-criticized" slightly more often than those over 25 do. Moreover, they also feel somewhat more "depressed" (23% compared with 20%). The latter figure confirms data from studies in the U.S. which show that depression, far from being absent among young people, is actually slightly more prevalent (Goldberg, 1981). However, not so long ago, psychiatrists rarely took an interest in depression in this cohort.

This conclusion does not mean that young people aged 18-24 are unhappier than their elders, as they more frequently claim to be "very happy": 39% compared with 34% (Gallup, 1982). On the other hand, they are slightly more dissatisfied with their current life: 13% as opposed to 10% in the five negative categories among the 10 possible answers. It is perhaps because they

---

12 Interpreting the results from this type of scale is problematical.

are more ambitious that they are slightly more dissatisfied, as only 18% of them (compared with 33% among those over 25) were much more content with their lives five years ago than with their current lives. However, when they compare it with their current life, young people look more favourably than their elders on the life they will lead five years hence (59% compared with 45%). These figures show that, overall, young people are not generally more morose than their elders and that an indicator of satisfaction must not be taken out of a broad context.

The 1982 Gallup's questions respecting alienation also show that young people do not feel as alienated as we might think. They believe that they have more freedom of choice and direction over their lives than their elders (83% compared with 77%) and report somewhat less frequently that their lives do not seem to have any meaning. However, 71% of respondents between 18-24, compared with 57% among those over 25, agree with the notion that the future is so uncertain that it is better to live on a day-to-day basis. This notion is hard to interpret, as we do not know whether respondents reacted more to the first part of the question (uncertain future) than to the second (live from day to day).

Three questions deal with a factor which we will call social alienation; the results are rather unexpected. Some 50% of those over 25, compared with only 40% of respondents aged 18-24, believe that it is possible to trust most people. This may be explained by the fact that young people probably meet new people more frequently than their elders do. This is not a problem between generations; to the contrary, those 25 and over have more confidence in young people than the latter do themselves (40% compared with 24%); young people have more confidence in the elderly than those 25 and over do (71% compared with 56%).

3.2 Mental Health Scales

In general, young people seem to have quite good mental health.

In the Canada Health Survey (Statistics Canada, 1981b), a scale called the Health Opinion Survey was completed by adult subjects.[13] Data reported in Table 21 show that men aged 15-24 account for a small percentage (approx. 2%) in the category with a high incidence of symptoms of anxiety and depression. Approximately 5% of women between 15 and 24 fall into this category. The Canada Health Survey was used again on a sample of 875 respondents, of whom 210 were between 15-24, living in an area of Montréal extending from the city centre to the west end (O'Loughlin, 1982). The results are similar to those in the previous study, that is, the high frequency of symptoms rates are among the lowest between the ages of 15-24.

A study carried out by mail among residents of Saskatchewan in 1976-1977 presents data which differ from that described earlier (D'Arcy, 1982). In this instance, the scale employed was Goldberg's current health questionnaire, which is also very popular for assessing mental health in North America. Among males, the differences between age groups under 70 are slight. Among females, the rates are among the highest with respect to those under 30 and

---

13 This scale is one of the most widely used in Canada and was designed for an epidemiological study carried out in Nova Scotia in the early 1950s. Tousignant, Denis and Lachapelle (1974) outlined its main psychometric characteristics during a validation study in the Eastern Townships region of Québec.

especially in the 18-19 cohort, in which 41% of respondents reported six symptoms or more, compared with 18% among the population at large. Despite the size of the sample (N = 2,007), between 30 and 40 women only belonged to the 18-19 category. However, the average number of symptoms (6.23) remained very high within this group; it is almost twice that found among males (3.62) of the same age.

How are we to interpret this difference between the data obtained using the two scales? First, Goldberg's questionnaire does not ask the subject whether he suffers from a particular symptom, but whether a symptom is now causing him more concern than it did in the past. It may well be that the symptoms found among females aged 18-19 in the Saskatchewan study are not more frequent than in older cohorts, but that such symptoms cause greater concern because they are relatively new for the person suffering from them.

Saucier (1981b) found a relationship between mental health and socioeconomic class. He administered the Langner scale to a sample of 267 school children aged 12-19 on Montréal Island. The results show that middle class respondents declared more symptoms than those from privileged or underprivileged families. At the same time, the author points out that young delinquents are more numerous in the extreme socio-economic categories. Given these facts, he wonders whether it is not the possibility of more freely expressing oneself among the poor and the very rich which leads young people to display stress through agressiveness rather than more internal, neurotic symptoms. Middle class young people are more introverted, perhaps because they are raised more strictly.

3.3 Psychiatric Morbidity*

Psychiatric morbidity will be discussed on the basis of two sources: separations from general hospitals following diagnoses of mental illness, which are accounted for in documents concerning hospital morbidity, and separations from psychiatric institutions.

The main observation is that the differences between the sexes are disappearing. In 1978, 24,081 separations were reported by general hospitals following the diagnosis of mental illness among young people of both sexes, compared with 11,140 separations from psychiatric institutions (see Table 22). The female:male ratio is approximately 0.7:1 in the 15-19 cohort and 0.5:1 among those aged 20-24 for psychiatric institutions. The situation is reversed for general hospitals: the female:male ratio is 1.4:1 for those aged 15-19 and 1.1:1 in the 20-24 cohort. Ratios in 1971 in these hospitals were 1.8:1 and 1.5:1, respectively. The number of discharges remained so stable between 1971 and 1978 that there is every reason to believe that differences between the sexes, which were quite pronounced at the beginning of the 1970s, are disappearing. These trends have also been noted in major metropolitan centres in the United States (Kessler and McRae, 1983). Such data suggest, nonetheless, that among young people rates of psychiatric hospitalization are probably slightly higher among females than among males. Account must be taken of the fact that more males than females suffering from emotional problems end up in prison, rather than being referred to a hospital. Thus, we cannot conclude that serious psychiatric morbidity (requiring hospitalization) is more pronounced among young women than young men.

There are appreciable differences between the sexes with regard to diagnoses (see Table 23). Young females aged 15-24 are diagnosed approximately twice as often as males for neurosis and affective psychosis, while young males are diagnosed about twice as often as schizophrenic and having personality disorders following their first admission to a psychiatric institution. With respect to statistics concerning hospital discharges in 1978, young females in the 15-24 cohort suffered twice as much from affective psychoses as young males in the same category. This ratio is similar to that noted in other age categories. The same observation has been made in many countries (Weissman and Klerman, 1977). The situation is different with regard to schizophrenia. The male:female ratio of 2:1 in the 15-24 cohort is reversed from the age of 35. This does not mean that schizophrenia appears earlier among young males than among young females. The probable explanation is that it is less acceptable for a man to remain inactive at home. Greater pressure will be exerted on a young man by those around him to have him hospitalized. This is how U.S. authors have interpreted similar changes in statistics based on age in the United States (Tudor et al, 1977). Another interesting observation is that psychiatrists now diagnose young females more freqently than young males for personality disorders. This diagnosis covers anti-social behaviour and was previously considered more masculine than feminine.

The study carried out by Nichol (1979) dealing with young people aged 15-19 treated in British Columbia in 1966 is one of the most comprehensive studies of its kind. Although it is dated, it remains extremely useful. All public and private hospitals and clinics in the province were covered. These data have the unique quality of covering all types of psychiatric treatment. The rate of incidence* of psychiatric treatment is about 1%; the rate of prevalence* is 1.8%, while the male:female ratio is approximately 1:1.2 for both rates. Between the ages of 16-17, rates are virtually the same for both sexes; subsequently, rates for young females become higher than those for young males, up to the age of 20. Rates of incidence drop among young men in urban and rural milieux, and among young women in rural milieux. However, they jump markedly among urban women; a considerable part of this increase affects rural women who migrate to the city. In the 15-19 cohort, new hospitalizations include 65% females, while cases examined in clinics include only 58%. It is to be noted that in this study, which takes into account non-hospitalized cases, the male:female ratio for the treatment of schizophrenia is about 1:1. For other diagnoses, the proportions are more or less similar to those respecting hospital morbidity in Canada.

We can conclude, then, that young Canadians are just as healthy mentally as the rest of the population. Women show more neurotic symptoms than men, but statistics on serious cases requiring hospitalization show no significant differences between the sexes.

4. State of Physical Health

The health and physical fitness of a population can be assessed using a number of complementary indicators. They provide information on hereditary diseases and others, the negative effects of certain aspects of an individual's lifestyle, the most frequent effect among young people being accidents, and the need for services related to pregnancy among women. The first two indicators that will be dealt with here give an overview of general well-being, and the four others provide information on the direct consequences of certain problems and the use of health services.

4.1 Health and Physical Fitness

The level of physical fitness of Canadians was established during the Canada Fitness Survey (1983a), using tests administered in the home. The results of the tests are harder to interpret than most of the indicators covered in this review, and there are some validation problems.

The stair-climbing test which made it possible to estimate cardio-vascular fitness paints a rather sombre picture of young people's ability, although the authors warn us about the validity of results for the 20-29 group. Indeed, the results show that the percentage of subjects who do not attain the minimum standards for their age vary from 55% to 65% between the ages of 15 and 30.

Between 15 and 30, young women enjoy greater flexibility than young men, and the scores for both sexes reach the maximum for all cohorts. Females attain their peak before the age of 20, while males reach it just after.

Muscular endurance is greater among males than among females for almost all cohorts, including young people. Women achieve their best scores around the age of 14; their performance then declines gradually. The same tendency is noted among males, except that they obtain their maximum scores later, between the ages of 15 and 20.

The muscular strength of young males is twice that of young females. While young women almost reach a plateau between the ages of 15 and 20, men continue to make appreciable gains until the age of 20.

In the absence of points of comparison, it is hard to interpret these results. The figures in question will be useful provided the tests are administered again to a sampling of the population during the coming years. For the time being, we may conclude that both men and women reach maximum muscular endurance and flexibility during their youth. With respect to cadio-vascular performance as an indicator of physical fitness, the problems related to the validity of the measurement should not make us forget that the results are disappointing and that there is much room for improvement.

4.2 Subjective Assessment of Health

One of the questions from the 1982 Gallup Poll deals with a subjective assessment of health. The results indicate that half of young Canadians aged 18-24 consider their health to be "very good", compared with 38% among older people. Some 10% of the former (about half as many as the latter) consider

their health to be less than "good", which may indicate the existence of serious or chronic problems. Although young people consider themselves to be in better health than their elders, the differences are not as great as some may think, and one must bear in mind that the 10% of young people who say they are in poor health probably have serious social adaptation problems, as the high suicide rate would indicate (see Section 5.3 on suicide).

4.3 Indicators of Handicaps in Roles

In the Canada Health Survey (Statistics Canada, 1981b), young people aged 15-24 reported 3.65 bed-days per person, or 1% of the whole year (see Table 24). The increase for both sexes combined is 13% between those aged 15-19 and those aged 20-24. While the number of bed-days declines slightly among males from one cohort to the next, it increases appreciably among females. The female:male ratio increases from 1.20:1 to 1.81:1 for both cohorts.*

The number of major activity-loss days is about 4.5 days per person among those aged 15-24 (see Table 25). More interesting still is that the female: male ratio is below one in the 15-19 cohort (0.9:1), while it jumps to 2.2:1 among those aged 20-24.

Both indicators show that the health of women deteriorates in relation to that of men between the ages of 15-19 and 20-24. Obviously, account must be taken here of days lost because of pregnancy or delivery in ultimately establishing what is attributable to illness and accidents.

4.4 Consultations with a Medical Doctor

The Canada Health Survey (Statistics Canada, 1981b) offers firm guarantees of validity with regard to consultations with a medical doctor during the preceding twelve months. In Québec, for example, 71% of respondents reported having visited a doctor during the previous year, while figures from the Régie de l'assurance-maladie du Québec indicate 73%. Table 26 shows that among young people aged 15-24, males are more numerous in the category of those who do not visit a medical doctor. The same number of females and males saw a doctor once or twice; however, twice as many women as men sought medical advice three times or more. It would be useful, in this instance, to be able to distinguish women who visit a medical doctor for reasons related to pregnancy, or to obtain a means of contraception. There is a significant increase in visits after age 20, and from then on the number of visits remain stable until the age of 44 for both sexes.

With respect to health care in emergency wards, care received following an accident obviously predominates. A study carried out by Consumer and Corporate Affairs Canada in four major Canadian hospitals indicates that hockey is the main cause of accidents among those under 25 (Le Devoir, December 20, 1983). In the 10-24 cohort, about 13% of injuries result from this sport.

4.5 Hospital Morbidity*

Statistics respecting hospital morbidity collected by Statistics Canada are based on hospital separations classified according to diagnosis (International Classification of Diseases and Accidents: ICDA). It must be

remembered that an individual may be hospitalized several times during a given year for the same diagnosis and will be counted each time. These statistics deal with the prevalence* of cases. Figures do not cover discharges from psychiatric hospitals or those resulting from work-related accidents, which will be examined separately.

Between 1972 and 1980-81, the rates of discharges from hospitals dropped by 10.7% in Canada for the population as a whole; rates reported with respect to young people followed this general trend. Table 27 shows that the downward trend is constant. Calculations made on the basis of annual hospital morbidity reports reveal that between 1971 and 1980-81, the rate dropped by 18.3% in the 15-24 cohort. The decrease is evident with regard to most diagnoses.

Because of deliveries, abortions and complications arising from pregnancy, rates of separations from hospitals are much higher among females than among males. A calculation effected on the basis of 1980-81 data[14] indicates that the female:male ratio is 2:1 among those aged 15 to 20, and 3:1 in the 20-24 cohort.

Comparisons of rates of hospital morbidity between the provinces do not call for any special remarks.[15] Rates respecting young people must be considered in relation to those for all cohorts*. While young people in Québec have much lower rates in all categories than those in the other provinces, this is probably due to the fact that the rates of separations in Québec are only 80% of the national average, while that in Prince Edward Island is about 150% of the national average. The ranking of the most important diagnostic categories is essentially the same from one province to another: among women, problems related to pregnancy and the genito-urinary organs, followed by diseases of the digestive system and accidents; among men, accidents rank first, followed by diseases of the digestive and respiratory tracts.

Among those aged 15-24, the number of hospitalized days per 100,000 inhabitants is scarcely lower than for the 25-44 cohort (see Table 27). But young people are not necessarily sick as often as their elders, since the reasons for hospitalization are not always sickness as such. Accidents are the main reason for hospitalization among men and delivery and perinatal problems are the main reasons for hospitalization among women (see Figure 2).

4.6 Work-Related Accidents

As we pointed out earlier, figures respecting hospital morbidity* did not take into account work-related accidents, which are very frequent in the male labour force. Among men, the number of requests for compensation is higher

---

14 Calculation based on data from Statistics Canada, Hospital Morbidity, catalogue 82-206, 1980-81.

15 Data are taken from the tables devoted to the five main causes of hospitalization by sex, age and province in Canadian Youth: Perspectives on their Health, tables 37, 38, 39 and 40.

than the number of separations from hospital. In Saskatchewan, Manitoba and British Columbia alone[16] there were 19,303 applications for compensation as a result of death or loss of wages. Together, the three provinces accounted for less than 20% of the population of Canada for this age category. On this basis, the number of applicants for compensation of this type may be estimated at about 100,000 throughout the country. Not all of these people were hospitalized, but if those who were had been included in the calculation of the rate of hospital morbidity, the ratio of hospitalization rates between the sexes would be significantly reduced. The number of applications for compensation made by females is known only with respect to Saskatchewan; among those aged 20-24, it represents about 10% of the figure for males. On the other hand, if corrections are made to take into account only the labour force, the number of applications made by women represents 17% of those made by men.

In the three provinces just mentioned, the likelihood of applying for compensation as a result of death or loss of wages is highest in the 20-24 category. In Saskatchewan, it is 50% higher for this cohort than for the provincial average; it is about 33% higher in the other two provinces. Does this mean that young people are more inclined to apply for compensation, or are they more frequently victims of work-related accidents? Let us assume that they are more frequently victims of accidents than older people are. Can it then be said that this is because they are more careless, less experienced or assigned more dangerous tasks, or because they are more psychologically disposed to having accidents? The answer to this question would required more extensive research. The problem has certainly become important enough to deserve the attention of researchers.

Although it is true that health and physical fitness decline with age, this statement should be qualified. Young people, especially after the age of 20, use health services as much as people in the 25-44 cohort. Among young people, accidents take away the advantage associated with a lower rate of sickness. Health and physical fitness problems among young people are still significant, even when compared with those of other cohorts.

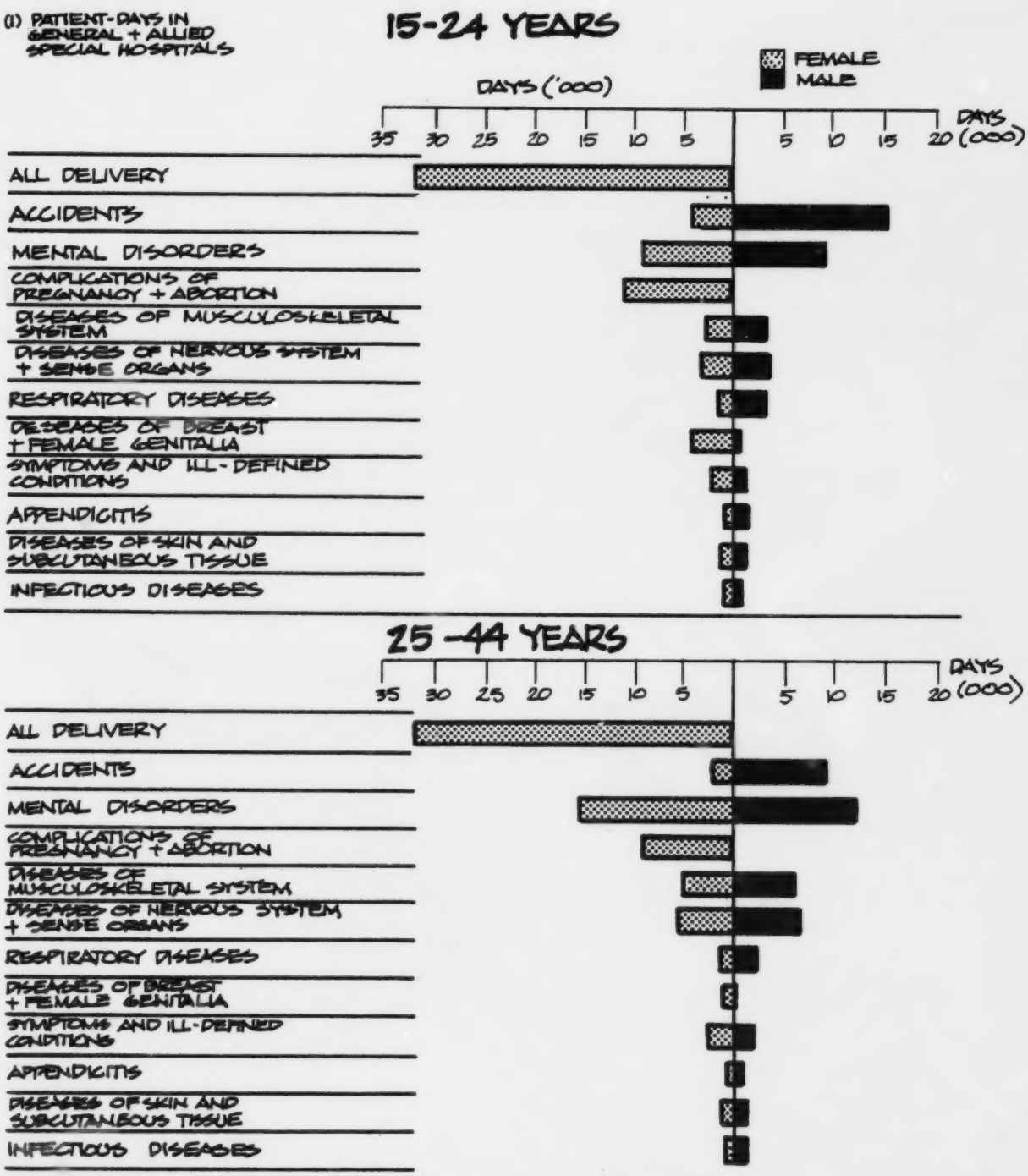
---

16 Statistics Canada, Workmen's - Workers' Compensation. This figure does not include workmen's compensation applications for other reasons. It is about twice as high in Saskatchewan.

FIGURE 2:

RATE OF PATIENT-DAYS[1] PER 100,000 POPULATION BY MAJOR CAUSES, SELECTED AGE GROUPS AND SEX CANADA, 1980-81

(1) PATIENT-DAYS IN GENERAL + ALLIED SPECIAL HOSPITALS



SOURCES: STATISTICS CANADA. HEALTH DIVISION, UNPUBLISHED DATA, AND STATISTICS CANADA. HOSPITAL MORBIDITY. OTTAWA: STATISTICS CANADA, MB4-(CATALOGUE 82-206).

5. General Mortality

The consequences of certain types of behaviour and difficult social situations are apparent in the rates of mortality attributable to accidents and suicide. Although sickness claims relatively few victims, many young people often expose themselves to death or actively seek it. For a significant number of young people, death is not an abstract entity that one starts to think about after retirement.

5.1 Life Expectancy

Life expectancy among Canadians increased significantly between 1931 and 1981, by 11.9 years among males and 16.8 years among females (see Table 28). The drop in perinatal mortality is obviously largely responsible for this improvement; among those who have survived childhood, the increase in life expectancy is much smaller. An adolescent male who turned 15 in 1981 could hope to live barely five years longer than someone who reached that age in 1931. A 15-year-old adolescent female could hope, in 1981, to live 11 years longer than her counterpart in 1931. This advantage can mainly be explained by the drop in mortality rates beyond the age of 25, which did not occur in the 15-24 cohort.

One sees the 1982 mortality rate for the 15-24 cohort go under the rate observed in 1961 (see Table 29). The situation deteriorated from 1961 to 1973-74, and then improved gradually until 1982. Only the rate for males between the age of 15 and 20 has not decreased to the 1961 rate.

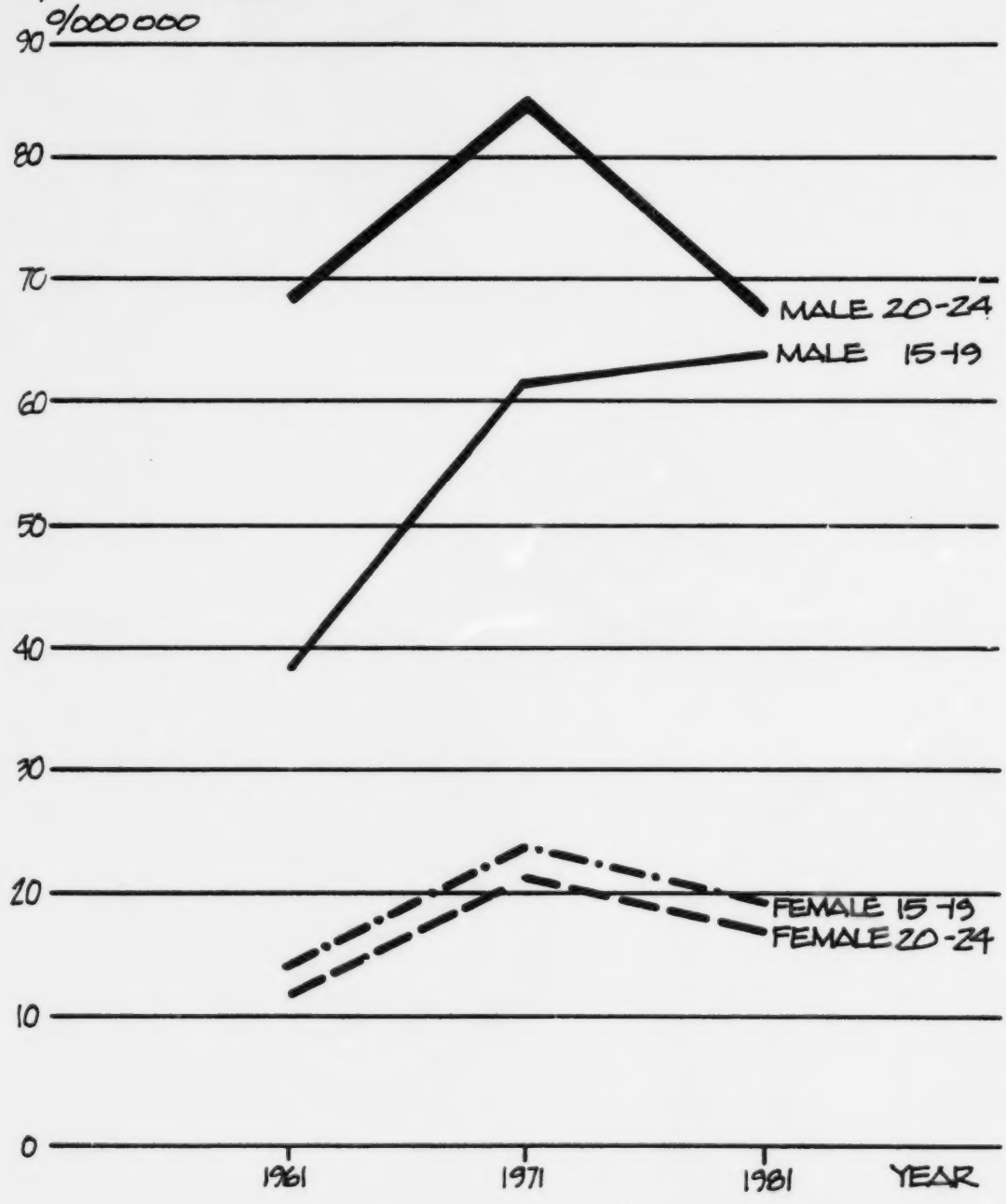
The study of mortality rates in relation to causes of death (see Table 30) reveals a noticeable increase in mortality for the 15-19 male group between 1961 and 1981, increase resulting from motor vehicle accidents (rate rose from 37.9/100,000 in 1961 to 64.1/100,000 in 1981) and suicides (rate rose from 3.7/100,000 in 1961 to 21.2/100,000 in 1981). Motor vehicle accidents and suicides are still the main causes of death. Figure 3 shows the growing contribution of males aged 15 to 20 to mortality rates following a motor vehicle accident. The increase for this group between 1971 and 1981 counterbalances the decrease in this type of death among the other three groups under study. One possible cause is that young people started driving at an earlier age in 1981 than in 1961. Inexperienced drivers who used to be in the 20-24 cohort are now more likely to be found among those aged 15-19.

With respect to deaths attributable to natural causes, the most frequent ones are cancer and circulatory diseases. Figure 4 strikingly illustrates the small proportion of deaths attributable to natural causes. Toward the age of 21, the latter category only accounts for about one-sixth of all deaths among males. In other words, progress in medical science can do little to reduce mortality during this period of life; the challenge lies more with the behavioural sciences. Highway traffic deaths, suicides and other types of violent death are complicated phenomena which warrant separate examination, in order for us to analyse the factors in question, and identify the possible means of prevention.

FIGURE 3:

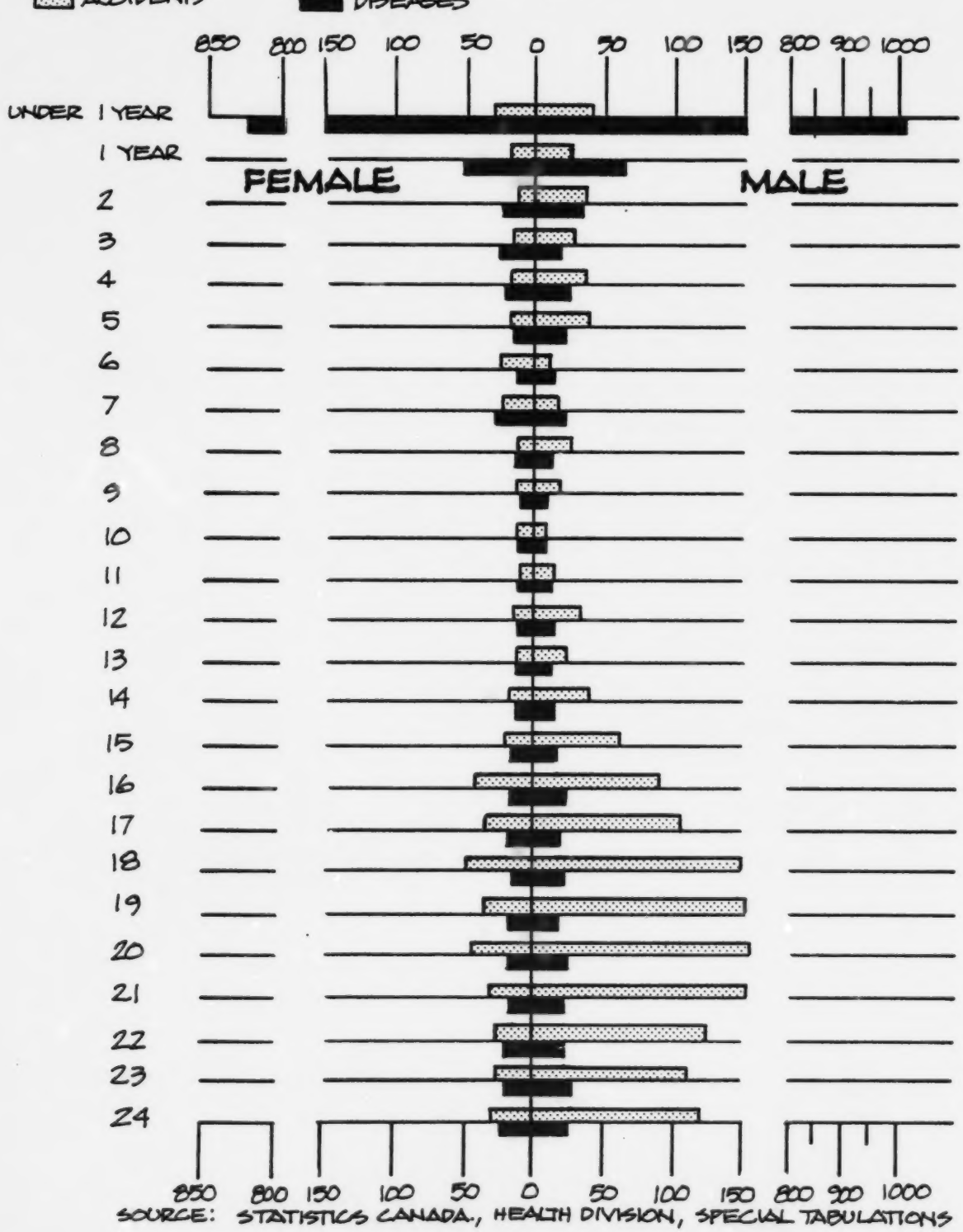
DEATH RATES PER 100,000 PERSONS FOLLOWING MOTOR VEHICLE TRAFFIC ACCIDENTS

FOR 15-24 YEARS, BY AGE AND SEX, CANADA, 1961, 1971 AND 1981



SOURCE: LAPIERRE, LOUISE AND HÉLÈNE AYLWIN. CANADIAN YOUTH: PERSPECTIVES ON THEIR HEALTH -OTTAWA: STATISTICS CANADA, CATALOGUE 82-545E, 1985, TABLE 54

FIGURE 4:
DEATH RATES PER 100 000 POPULATION FOR CHILDREN AND YOUNG ADULTS, BY AGE, SEX + CAUSE, CANADA, 1980.



SOURCE: STATISTICS CANADA., HEALTH DIVISION, SPECIAL TABULATIONS

5.2 Deaths Due to Automobile Accidents

Every year in Canada, 75,000 young people aged 15 to 25 are injured, and 2,000 are killed, in highway accidents (Simpson et al, 1982). This represents about half of all deaths in the 15-19 cohort, and one-third in the 20-24 category.

Statistics published by the World Health Organization enable us to compare Canada with eight other industrialized countries for 1978 (see Table 31). Among males and females aged 15-24, Canada's mortality rate is exceeded by that of Australia, West Germany and the United States, while it ranks ahead of France, Sweden, Norway, Japan and Finland.

In Canada, the mortality rates following a motor vehicle accident are high in Nova Scotia and New Brunswick, slightly drop until Ontario and then gradually increase up to British Columbia (see Table 32). The male:female mortality ratio was 3.6:1 in 1976 among those aged 15-24 (Simpson et al, 1982). The underprivileged socio-economic group also accounts for the highest rate of deaths of this type, although calculations have only been made for the 15-34 cohort (Nichols and Davies, 1980).

Males who die in highway accidents are behind the wheel twice as frequently as they are passengers (Simpson et al, 1982). The reverse is true among females; not only are they less frequently involved in fatal highway accidents than males, but a man is often driving when a woman dies in an automobile accident. It is impossible to establish whether this difference between the sexes is attributable to the fact that men are less competent or less careful drivers, as the data cannot be corrected by taking into account time spent behind the wheel.

The time spent behind the wheel, the consumption of alcohol and inexperience are certainly three factors to be considered in interpreting the high number of casualties among those aged 15-24. Such factors must be considered not only separately, but in terms of their interrelationships, and in relation to other factors.

Precise statistics concerning the time spent behind the wheel are not available for Canada as a whole. The only data in this area were obtained during a study of the concentration of alcohol in the blood among those driving in the evening. According to the study, the risk of a fatal collision at this time of day is much higher in the 16-24 cohort than for the population at large, where account is taken of the time spent behind the wheel. In relation to the basic risk of 1.0, those aged 16-17 of both sexes have a relative risk of 2.3, those in the 18-19 cohort, 1.7, and those aged 20-24, 1.2 (Simpson et al, 1982).

Alcohol consumption among victims of highway accidents has been widely studied in Canada, which has one of the best systems for detecting the presence of alcohol in the blood of drivers. More than 38% of automobile drivers who have been killed have an alcoholemia rate exceeding the legal limit of 80 mg/100 ml. The figure is 44% among those aged 16-24 (Simpson et al, 1982), and 37% in the 16-19 cohort. It stays at 47% between the ages of 20 and 25, the rate at which drivers are killed when their faculties are impaired through excess drinking is highest in the 21-25 cohort: 49% of all drivers killed in

this cohort had an alcoholemia rate above 80 mg/100 ml. As not all drivers were tested, the percentage is actually 57.4% of those who were examined (Transport Canada, undated).

Another conclusion of the report mentioned is that young male drivers under 20 are much more likely to be killed at the wheel than those in other cohorts when the alcoholemia rate exceeds the legal limit (see Figure 5).

The latter analyses are based on the legal limit, beyond which the risk of a fatal accident increases significantly. It has also been found that young male drivers are more likely to die behind the wheel than their elders when their alcoholemia rate is slightly under the legal limit (Simpson et al, 1982).

A study carried out in 1981 in Québec, Saskatchewan and British Columbia among drivers on the highway in the evening provides very useful data because of the limited number of refusals, and the application of the blood alcohol test (Lawson et al, 1982). The most unexpected result is that the 16-24 cohort accounted for 35% of drivers in Québec and British Columbia, and 51% in Saskatchewan. In British Columbia, the incidence of drivers with impaired faculties was highest among those aged 16-24. In the other two provinces, the incidence of such drivers was, to the contrary, lowest in this cohort. Moreover, the study revealed that overall, inebriated drivers are less likely to use seat belts.

This study also showed that young people do not drink while driving any more than older people; however, when the former drive while under the influence of alcohol, they run a much greater risk of having an accident than the latter. There are many possible, although hypothetical, explanations for this. It may be because young people do not tolerate alcohol as well, or do not know their reactions when intoxicated. A study by Allsop (1966) indeed shows that frequent drinkers are less likely to have a fatal accident. Moreover, where a driver is inexperienced, he will probably make a serious driving error after consuming less alcohol than an experienced driver. A young person who drinks, even under the legal limit, is probably more likely to be influenced by a challenge from a passenger or another driver. The presence of more than 80 mg/100 ml of alcohol in the blood also appears to increase the chances of dying in an accident.

Studies on drugs and driving are not as advanced as those devoted to alcohol. Because of the limited number of victims in this category, it is hard to draw conclusions with respect to young people (Simpson et al, 1982).

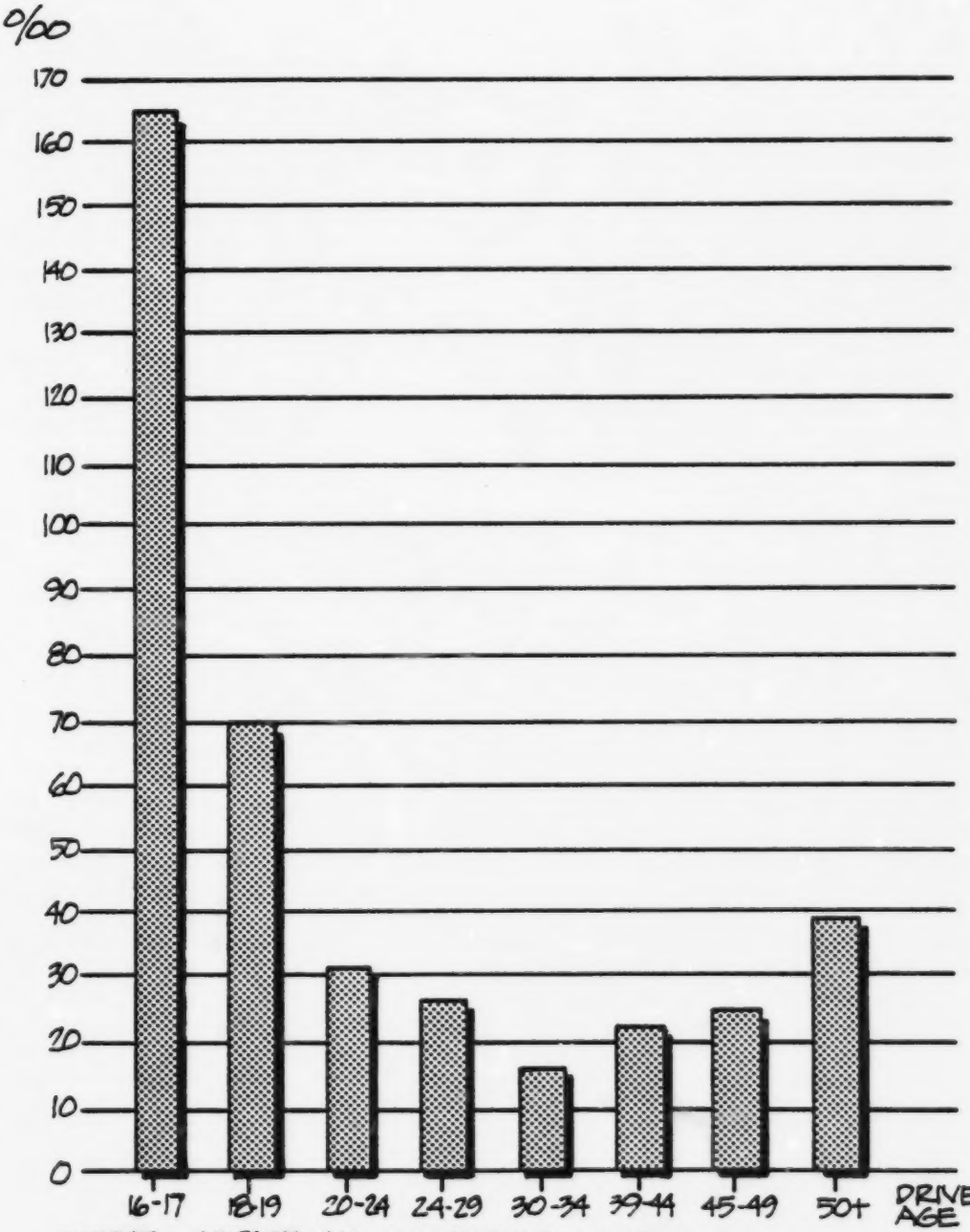
Of course, numerous factors other than alcohol explain the causes of highway deaths among young people. Although young people account for 16.6% of those who drive on an empty stomach in the evening, they are involved in 24.9% of fatal accidents (Simpson et al 1982). MacDonald (1977) suggests several explanations, including inexperience, poor knowledge of certain roads, speeding, and mechanically unsound vehicles.

In terms of prevention, we must certainly remember that alcohol has to be considered an important target, although not the only one. Young people must be taught to drive better, bearing in mind that as the population has gradually shifted towards the suburbs, it is unrealistic to raise the legal age for obtaining a driver's licence.

FIGURE 5:

RELATIVE LIKELIHOOD OF FATAL CRASH FOR "IMPARED" DRIVERS"

AS A FUNCTION OF AGE, CANADA, 1974-75



SOURCE: SIMPSON, H.M., MAYHEW, D.R. + WARREN, R.A. EPIDEMIOLOGY OF ROAD ACCIDENTS INVOLVING YOUNG ADULTS: ALCOHOL, DRUGS AND OTHER FACTORS, DRUGS AND ALCOHOL DEPENDENCE, 1982, 10, 35-63 (FIGURE 8)

5.3 Suicide

5.3.1 Epidemiological data

In Canada and a number of other western nations, suicides among young people increased appreciably between 1961 and 1982. Among the nine industrialized countries for which statistics respecting the causes of death were published in 1978 by WHO (see Table 31), Canada ranks second, with West Germany, in terms of suicides in the 15-24 cohort; the rate of 16.9/100,000 is exceeded only by that of Finland (20.7/100,000). Other countries include Japan (14.6/100,000) and Sweden (13.8/100,000), which are nonetheless acknowledged to have high suicide rates.

The increase in suicides was very pronounced between 1961 and 1971; in subsequent years, they increased at virtually the same pace (see Table 33 and Figure 6). The increase has been the most striking among those aged 15-19; it increased 5.5 times among both sexes between 1961 and 1982. In the 20-24 cohort, it rose 3.5 times among males and 2.5 times among females. This comparison must not mask the fact that suicide is still 1.5 times more prevalent among those aged 20-24 than in the 15-19 cohort.

The increase in suicide rates is especially evident in Québec, which had very low rates in 1961, and which exceeded the national average in 1981 (see Table 34). In 1981, the suicide rate among young people was highest in Saskatchewan, which can be explained by the fact that, in relation to the other provinces, the rates are extremely high among young people aged 15-19. It is also interesting to note that rates are essentially the same in the 15-19 and 20-24 cohorts in the provinces west of Québec, while they increase appreciably after the age of 20 in Québec and provinces east of it.

It is still hard to establish to what extent suicide rates are underestimated. A study carried out in Newfoundland, where the rates are the lowest in Canada, revealed that there were 104 deaths from unknown causes for 103 suicides recorded between 1974 and 1978 (Malla and Hoenig, 1983). Of the 104 cases, 14 were clearly suicides; the cause of death was not determined in 58 other cases in which no investigation took place, mainly because they occurred in remote areas. When all of these deaths were counted as suicides, the provincial rate rose from 3.8/100,000 to 6.4/100,000 which is well below the Canadian average. These results obviously cannot be generalized to cover other provinces and must be re-examined if we are to explain disparities between them.

Solomon and Hellon (1980) show that since 1951 in Alberta, suicide has risen among the 15-19 cohorts which are aging at the same time as suicide is increasing in each of the new 15-19 cohorts. Current 15-19 and 20-24 cohorts are likely to cause the suicide rate to increase as they grow older if the upward trend continues. The study carried out by Solomon and Hellon (1980) reveals that, although more and more young people commit suicide, this does not mean that they will be less likely to do so as they grow older.

Other analyses carried out in Alberta show that from 20% to 25% of males and from 40% to 50% of females in the 20-24 cohort sought to obtain health care or used health care services just prior to committing suicide (Solomon and Boldt, 1975). Some of these young people may have consulted a medical doctor to obtain a prescription for drugs which might then be used to attempt suicide, although others may have seen the doctor to seek a remedy for their distress. It is necessary to make doctors more aware of this phenomenon and suggest that they ask their patients about the presence of suicide ideations* when the latter seem unusually discouraged or under great stress.

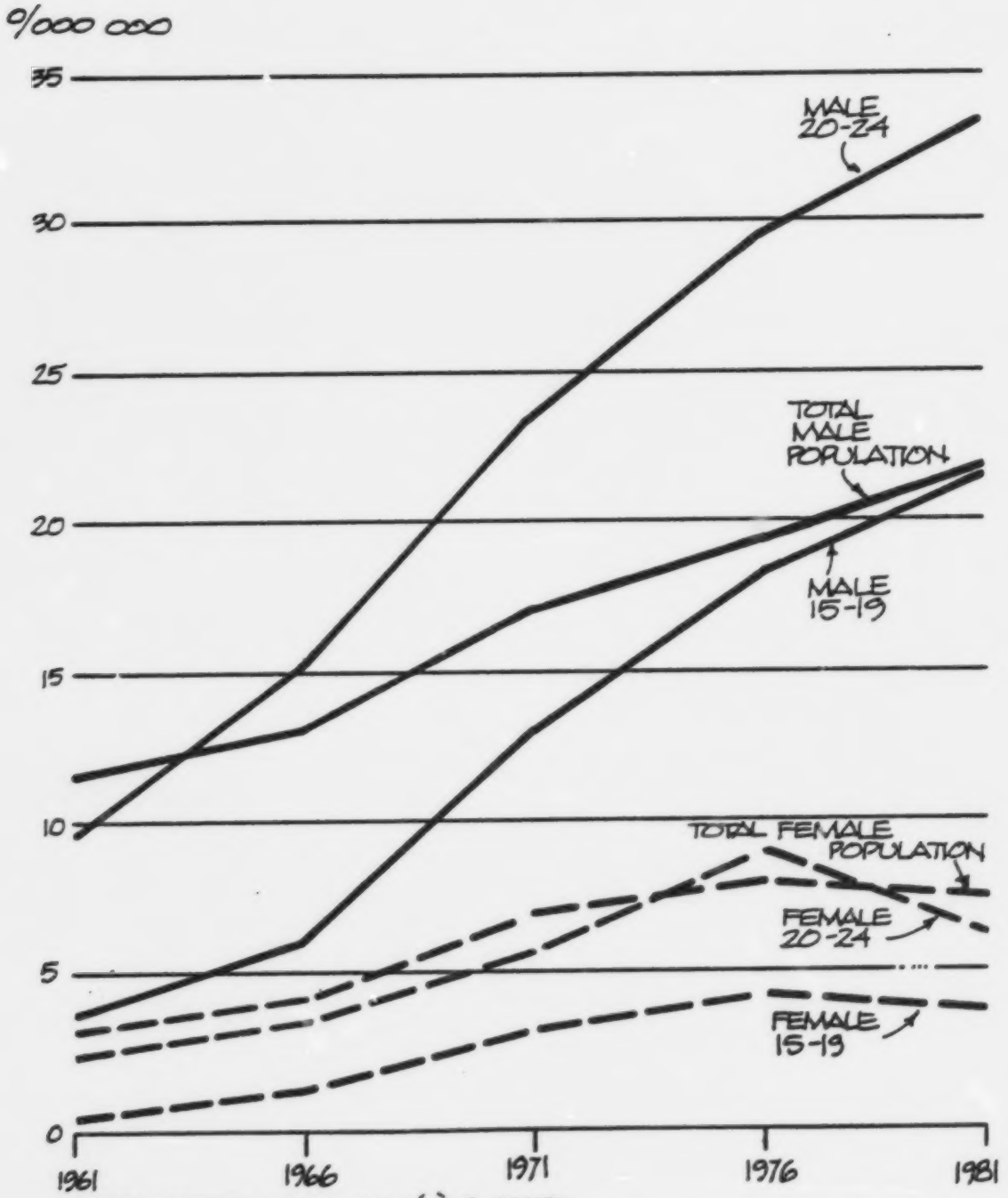
As is the case in most countries, males mainly use firearms to take their own lives (see Table 35). What is especially striking among young people is the astonishing number of females who also use firearms: 40% in the 15-19 cohort and 22% among those aged 20-24, compared with only 9% in the 25-64 cohort.

The ratio between attempted suicide and successful suicide is generally much higher among young people than among their elders. For 1980-1981, Statistics Canada published a report on cases of hospitalization related to suicide attempts and self-inflicted injuries for five provinces (see Table 36). The disparities between the provinces are remarkable when suicide attempts and self-inflicted injuries are compared with successful suicide rates. Among those aged 15-19, the ratio of attempted to successful suicides is 2.4:1 in Saskatchewan, and 16.7:1 in British Columbia. These figures probably mean that methods of compiling statistics vary from one province to another. They are also an underestimate, since they do not take into account cases not treated in hospitals.

A survey of suicide attempts was carried out in the London, Ontario region between 1969 and 1971 (Jarvis et al, 1976); it covers the files of small hospitals, psychiatric institutions, prisons and 85% of medical doctors in the city. It is one of the best studies of its kind done anywhere in the world. The results show that the rate of attempted suicides and self-inflicted injuries reached 822/100,000 (nearly 1% of the population) among females aged 15-19, which is about 10% less than in the 20-24 cohort. For both cohorts, it is about half that among males. The ratio of attempted to successful suicides (23:1) is much higher among these groups than the figures 8:1 or 10:1 put forward elsewhere. As attempts are more frequent among young people, the ratio of attempted to successful suicides rises to about 200:1 among females aged 15-24, and 30:1 among males in the same cohort. Thus, among the young, females attempt suicide six or seven times more often than males. Although very high, the number of successful suicides is only an indication of a much more serious problem. The authors also point out that the region studied does not apparently differ from other regions and that there is every reason to believe that the same attempted suicide rates prevail elsewhere. Moreover, given that a number of attempts, especially among young people, are not brought to the attention of institutions or health services, the statistics presented are a conservative estimate.

A study carried out in 1983 among 667 Cegep students aged 17-22 in Montréal reveals a high incidence of suicide ideation* (Tousignant et al, 1984). More than 20% of the respondents declared that they had had serious suicide ideations and 12% during the preceding nine months; most of them had even made precise plans. About 8% of them also admitted to having attempted suicide in the past.

FIGURE 6:
SUICIDE RATES PER 100,000 POPULATION
BY AGE AND SEX, CANADA, 1961 TO 1981



SOURCE: LAPIERRE, LOUISE AND HÉLÈNE AYLWIN
CANADIAN YOUTH: PERSPECTIVES ON THEIR HEALTH
-OTTAWA: STATISTICS CANADA, CATALOGUE 82-545E, 1985, TABLE 63

5.3.2 Psychosocial interpretations

How can the high incidence of suicide among young people be explained? One of the best studies in this regard was carried out at McGill University, where a team of researchers compared the number of suicide attempts and ideations among students aged 17 to 27, on the basis of the separation or loss of a parent prior to the age of 16 (Adam et al, 1982). The results show quite clearly that students from two-parent families, while they may seek help from a mental health clinic, have considerably fewer serious suicide ideations* (15%) than those who have lost one parent through marital disagreement (43%), or through death (51%). Statistics respecting suicide attempts are also revealing. Of the 61 students from two-parent families, only 5% had attempted suicide, while 18% of those from broken homes had done so. Another interesting observation in this study is that students who entertained suicide ideations came primarily from broken homes in which the atmosphere was described as unstable or chaotic, following the loss of a parent. A stable atmosphere after a separation protects against suicide attempts in the same way that the absence of separation does.

As the population under study was using a mental health service, it is, unfortunately, impossible to draw conclusions respecting the frequency of suicide ideations among young people in general. However, the conclusion drawn in the study may be compared with another study carried out in Québec which shows that successful suicides occur in regions in which the percentage of single-parent families is the highest (Charron, 1981). Considerable attention must be paid to this factor in subsequent research, as suicide has become more frequent as the number of single-parent families has increased in Canada. While this factor is linked to the change in the number of suicides as suggested by the data in Adam et al, (1982) it is to be expected that the suicide rate among young people will not decline in coming years. U.S. census experts anticipate that there is a 50% risk that a child will experience the separation of his parents. Similar projections can be made on the basis of divorce and separation rates in Canada. For example, in Québec, in 1980, it was estimated that 15.2% of children would see their parents divorce before they reached the age of 18 (Lapierre-Adamcyk and Perron, 1983). Obviously, this estimate does not take into account children whose parents separate or whose parents never married.

Boor (1980) found a significant correlation between the increase in suicide rates in the 15-24 cohort in Canada and the United States between 1962 and 1975, and the concomitant upswing in unemployment. This observation does not mean that those who commit suicide are unemployed; it is hard to interpret this correlation. It should be noted that the rate of unemployment rose very little over the 14 years in question; it was 5.9% in 1962 and reached 6.9% in 1975, bottoming out at 3.6% in 1966. At the same time that unemployment rose 1%, the national suicide rate increased 63% and that among young people, by nearly 600%.

Numerous other studies carried on outside Canada have attempted to explain the phenomenon of suicide among young people (Tousignant, 1983). As might be expected, the living conditions of suicidal individuals are often hard to bear (physical illness, family separations). However, few interpretations enable us to explain why young people choose to take their lives instead of seeking other solutions. Depression and low self-esteem have

been emphasized without confirming the stereotypical image of the suicidal individual as isolated, discouraged with life, and introverted. Boys are more impulsive than girls. However, suicide rarely results from a simple, impulsive act, unless the latter is the culmination of a lengthy series of adverse circumstances. Kaplan's psychosocial theory (1980), which is the most articulate, suggests that the young suicidal individual feels rejected and is inclined to discredit social standards in his milieu, which leads him to engage in deviant acts, such as suicide attempts. The existence of depression, as defined clinically, or any other psychiatric diagnosis, is confirmed in about half of attempted suicide cases, according to some studies. Obviously, this observation does not enable us to determine whether mental illness leads to suicide, or whether the suicide shares the same etiology as the psychiatric syndrome diagnosed. A greater probability of suicide has been noted when physical illness such as diabetes or multiple sclerosis is present, or when the individual is undergoing dyalisis treatment. Problems related to love life and conflicts with parents are also frequently cited as contributing factors.

Suicide prevention programs specifically directed toward young people are less developed than programs in most of the other areas dealt with in this study. Here, simply distributing information is clearly not sufficient. Efforts should be directed toward developing a mutual assistance network, by encouraging discussion of problems with those around the individual. There is, of course, every reason to provide information on the extent of the problem, make people more aware of indicators of suicidal behaviour, convince them to take suicide threats seriously, rather than ignoring them or minimizing their importance, and show them that they can intervene usefully and effectively.

5.4 Violent Deaths among Native Peoples

The study undertaken by Jarvis and Boldt (1982) on the causes of death among Native and Métis peoples in Alberta show how high violent deaths among young people are. Data respecting each death were verified in various records; an assistant from the same cultural group, known in the community, questioned the victim's family. The report does not count separately deaths among those aged 15-24. On the other hand, it points out that mortality rates among Native peoples tend to be higher during childhood, while the tendency becomes even more pronounced among young adults (page 1347).

As mortality is high among young people, it is to be noted that conclusions which apply to deaths attributable to causes other than natural ones in the population are all the more valid for the young adult group. Fires are the main cause of mortality, and account for 11.6% of deaths; five times out of six, the victims have fallen asleep. This rate among Alberta native peoples and Métis is 27 times that for the population at large. Motor vehicle accidents account for 10.4% of the victims; in 60% of the cases, the driver either had the reputation of being a poor driver or did not possess the appropriate licence. The suicide rate in this population is five times the overall Canadian rate. Some 46.3% of deaths are attributable to violent causes, which is nearly four times the rate for Alberta. The authors make a conservative estimate in directly ascribing 40% of all deaths to alcohol. Their conclusion is supported by the use of an alcoholemia test or reports from the victims' immediate families.

Numerous studies are cited on the causes of alcoholism among these populations. Several explanations are put forward, including social disorganization, boredom, a sense of failure, a lack of social acceptance, unemployment and problems with the police. This alarming situation demands immediate action, which is already being carried out, with respect to consumption, and on the cultural level. This is not an essentially Canadian problem, as it has been noted among several groups which have been violently propelled into a rapid, unwanted process of deculturation. It is not necessarily the most pathological elements of the population which are affected. Occasionally, those who were best prepared to become traditional leaders are the first victims of social disorganization.

6. Conclusion

6.1 Summary and Future Prospects

It would be pretentious to attempt a final synthesis of all of the seemingly heterogeneous elements covered in this study. Is the health of young Canadians satisfactory? Do the living habits of today's youth suggest that this generation will enjoy better health in several decades than their elders currently do?

The following is an assessment of living habits. Alcohol consumption is high, although use of it is currently stabilizing. The number of social problems linked to alcohol is fairly high and reveals numerous psychological problems. Moreover, many young females are now heavy drinkers. If it is equally true for young people in Canada and the U.S. that alcohol consumption linked to problems among males and high consumption among females are generally sustained throughout adulthood, then it may be said that today's youth will continue to have many problems in the coming decades. With respect to illegal drugs and non-prescribed medical drugs, there is no reason to believe that the use of these products is currently on the upswing. The level of consumption linked to various problems nonetheless remains high, and the reasons for taking drugs seem to have changed. It is no longer a case of seeking new life experiences; it may be suspected that consumption is more closely tied to psychological problems. Young people appear to be smoking cigarettes less than they used to. The decrease is most apparent among males, although the improvement is offset by higher consumption among females in certain regions. Mention can be made of a slight, but significant, drop which might result in a modest increase in life expectancy in 40 years, all things being equal. Data concerning physical activity and physical fitness do not lend themselves to comparisons with other periods. There is every reason to be somewhat optimistic, while bearing in mind the sharp downturn in certain indicators of activity when people reach the age of 20. Although the question of nutrition was not dealt with exhaustively, some valuable improvements may have been achieved in this regard. To conclude, it appears that living habits have improved slightly in recent years, although this does not justify abandoning attempts which have been undertaken to promote better health.

Concerning the rates of mortality and health, the overall picture is not particularly bright. Our main observation is that young people have a greater mortality rate now than they did 20 years ago; this is mainly due to an increase in the number of suicides and highway accidents. With respect to diseases and non-fatal accidents, there are also a number of areas of concern. Work-related and sports accidents affect many boys, while the incidence of sexually transmitted diseases remains high among both sexes. The situation with regard to mental or physical illness does not appear to have changed significantly during the 1970s. What is new is that differences between the sexes, which favoured males in 1971, have tended to disappear more recently. Most young people claim to be in good health, as is to be expected, although one person in ten admits to being in poor health. There is no reason to rejoice, nor to be overly dissatisfied. The key element to bear in mind is probably the sharp increase in suicides.

6.2 Reflections on Future Research

The amount and quality of research carried out in the areas of health epidemiology and prevention among young people are generally satisfactory. The problem is to establish relationships between all the data available and produce a profile of young people who have health problems or poor living habits.

The first shortcoming concerns associations between various indicators. Do the same young people attempt to commit suicide, fail to use their seat belts, take drugs and drink, and neglect to exercise? Data banks, such as that of the Canada Health Survey, now exist, and it might be possible to use them more extensively, without gathering new information. Researchers carrying out epidemiological studies in certain fields might add a number of questions to health-related topics. Such data might enable them to better interpret their results. Moreover, it is essential to consider the interactive effects between certain aspects of health. The simultaneous consumption of cannabis, alcohol and tobacco may, for example, compound health risks.

It is also hard to analyse risk factors without longitudinal studies, which are costly and only give results over the long run. They must be planned as early as possible in order to be implemented; moreover, they require the collaboration of a group of researchers to ensure their continuity and success. The scope of the project is such that it can often only be carried out with the assistance of government agencies or research foundations. The knowledge gained from such research would certainly be worth the money invested.

Most studies on young people's health are carried out on the basis of what are called captive populations, that is, populations attached to educational institutions. Information respecting young workers, unemployed youth or young people from various ethnic groups are, for all intents and purposes, non-existent. Despite high costs, such research should be encouraged.

We also need studies on life-stress events associated with certain diseases or living habits. Scales should be developed which take into account youth's particular living conditions, while incorporating such events as the separation of parents, the threat of separation, disappointment in their love life or the loss of a close friend. We feel that the best investment to be made is in studies which integrate the clinical and epidemiological methods, as Brown and Harris (1979) have done in their excellent study devoted to the social origins of depression among females. The type of research we are advocating obviously cannot be effected on big samples. Its target must be high-risk populations, such as young people from single-parent families, or from underprivileged milieux, or unemployed.

6.3 Reflections on Prevention

A paper like this one may well leave a bitter aftertaste, given that its initial goal was to review the health of young people. The task of an epidemiologist is to point out zones in a catastrophic state; rarely does he underscore positive facets of the question, as, most of the time, the

epidemiologist's instruments are not oriented in this direction. To be of use as a guide such papers must result in concrete prevention plans, in which certain policies may evolve from data contained in studies.

Occasionally, we have outlined a number of suggestions respecting prevention, without having undertaken a broader reflection on the question. We intend to do this now. A series of studies by Saucier on Montréal adolescents will assist us in discussing several basic concepts, to which we will add a synthesis of the data presented.

-When young people fail to adopt preventive behaviour, it is not necessarily for want of the proper information. Many studies, including the 1983 Gallup Poll on young people, show that they have basic knowledge and are basically receptive. The problem arises from the fact that correlations between knowledge and attitudes on the one hand, and knowledge and behaviour, on the other, are very weak (Saucier and Gauthier, not dated; Saucier and Steinberg, 1979). The main priority is not so much to distribute information, as to motivate young people to adopt sound living habits.

The question becomes how to motivate young people. The lesson here is probably not to have recourse to programs based on avoidance, but to those based on positive action which makes the individual aware of his responsibility for his health (Gochman and Saucier, 1982). It is the latter variable which, in Saucier's research, most closely correlated with sound living habits. Consideration must also be given to approaching groups and individuals as the latter will keep their poor habits unless their peers change.

-In the introduction, we emphasized that behaviour related to health is based on more general cultural premises, a notion of human beings and their relationship with nature. It is obvious that young people do not live in a world divorced from that of adults, and that the culture they inherit from their elders is a powerful model for them. By insisting on the rebellion of young people, we forget that they seek, above all, to identify themselves with a positive model. In this light, there is no point in attempting to alter the behaviour of young people unless that of adults changes significantly.

-The differences between the sexes are often considerable with regard to personal problems. Despite a desire in our society to ensure equality between the sexes, very profound differences persist between young men and women. The study undertaken by Saucier (1980) shows that preventive behaviour in general is perceived by adolescents (aged 12-19) as essentially feminine, except with respect to physical activity. In the short and medium terms, prevention activities, as several authors have proposed, will have to be oriented differently, depending on whether they are directed to males or females. Preventive living habits should also be presented in a more masculine, or less feminine, manner.

-Much behaviour, especially with respect to drugs, is very hard to change once it has been adopted, not because of ill will, but through habituation. Several authors suggest starting prevention programs during childhood or pre-adolescence to prevent young people from developing undesirable habits.

-We have underscored the close link between suicidal behaviour and family structure. Studies carried out by Saucier and Lambert (1983) once again indicate that adolescents (aged 12-19) from two-parent families engage less frequently in behaviour which is detrimental to their health than those whose parents are separated or divorced. Marriage breakdowns may have far-reaching effects on the mental--and, probably, physical--health of young people. It must also be remembered that this is a socio-economic problem, as many single-parent families in Canada live below the poverty line.

-Cultural disintegration must also be considered in relation to widespread alcoholism and violent deaths experienced by Native peoples. Again, it is a question of acting in terms of socio-cultural dynamics, rather than on an individual level.

DEFINITIONS

1. Addiction: a state of dependence on a drug.

2. Cohort: a group of individuals with a common statistical attribute which generally consists of their having been born during the same period (e.g., people of the 1939 age group).

3. Drug: a substance used to produce a medicine.

4. Incidence: the frequency of new cases diagnosed during a given period.

5. Morbidity: number (absolute or proportional) of sick people in a given group and during a given time.

6. Prevalence: the number of new or recurring cases diagnosed during a given period.

7. Psychotropic drug: a drug which affects the central nervous system.

8. Suicide ideation: the idea of wanting to take one's own life, usually accompanied by thoughts about the means of doing so.

APPENDIX

TABLES OF REFERENCE

TABLE 1: Synthesis of studies on young people and alcohol abuse.

Survey	Definition	Age	Results		
			Total	Men	Women
Statistics Canada (1981a)	. 14 drinks and more per week	18-19 20-29		12% 20%	4% 5%
Health Canada Survey (1981b)	. 14 drinks and more per week	15-19 20-24		13% 31%	6% 8%
Gallup (1979), British Columbia	. 3 glasses or more per day	18-19	1.6%		
Murray (1977-78), Manitoba	. 8 consecutive drinks once in a while	18-19 20-29	49% 43%		
Hetherington et al (1977), Saskatchewan	. 4 or more periods of drunkenness in one year . behavioural problems due to alcohol	Grade 10 Grade 12	38% 58%		
Lamontagne et al (1979), Montreal	. drunk 4 times a year . under the influence of alcohol more than once a week . alcohol dependence	average is 18 years		14.6%	3.2%
Dickie (1978), Edmunston and Fredericton	. have had 9 drinks or more in one day	Grade 12		24.5%	4.3%

Sources: Statistics Canada, Special Report on Alcohol Statistics - Ottawa: Health and Welfare, 1981a and Whitehead, P.C. Young Drinkers: A Recent Canadian Study. Health Protection Branch - Ottawa: Health and Welfare, 1984.

TABLE 2: Population 15 years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Age and Sex, Canada, 1978-79

Age and Sex		Type of Drinker										
		Total	Never drank	Former drinker	Occasional drinker	Current drinkers and weekly volume of alcohol consumed						Type of drinker unknown
						Total	No Drinks	1 - 6 Drinks	7-13 Drinks	14 Drinks and Over	Weekly volume unknown	
		in thousands										
Age 15 and over:												
Both sexes	No	17,492	2,008	653	2,642	11,418	1,352	4,585	2,306	2,092	1,082	771
	%	100.0	11.5	3.7	15.1	65.3	7.7	26.2	13.2	12.0	6.2	4.4
Male	No	8,584	584	377	841	6,453	580	2,137	1,467	1,667	603	329
	%	100.0	6.8	4.4	9.8	75.2	6.8	24.9	17.1	19.4	7.0	3.8
Female	No	8,907	1,424	276	1,801	4,965	772	2,448	839	425	480	442
	%	100.0	16.0	3.1	20.2	55.7	8.7	27.5	9.4	4.8	5.4	5.0
15-19:												
Male	No	1,187	188	16Q	163	721	120	267	132	149	52	100
	%	100.0	15.8	1.3Q	13.7	60.7	10.1	22.5	11.2	12.6	4.4	8.4
Female	No	1,146	238	36Q	212	597	105	272	116	63	41	62
	%	100.0	20.8	3.1Q	18.5	52.1	9.1	23.7	10.2	5.5	3.6	5.4
20-24:												
Male	No	1,106	38	23	63	965	81	283	230	343	28	18Q
	%	100.0	3.4	2.1	5.7	87.2	7.3	25.5	20.8	31.0	2.5	1.6Q
Female	No	1,108	79	29	187	789	147	403	131	90	18Q	24Q
	%	100.0	7.2	2.6	16.9	71.1	13.2	36.4	11.8	8.1	1.6Q	2.2Q
25-44:												
Male	No	3,230	109	114	318	2,626	188	910	628	699	202	63
	%	100.0	3.4	3.5	9.8	81.3	5.8	28.2	19.4	21.6	6.2	1.9
Female	No	3,242	270	91	719	2,073	318	1,106	355	162	132Q	89
	%	100.0	8.3	2.8	22.2	63.9	9.8	34.1	10.9	5.0	4.1Q	2.8
45-64:												
Male	No	2,174	122	136	175	1,664	131	554	371	390	217	77
	%	100.0	5.6	6.2	8.1	76.5	6.0	25.5	17.1	18.0	10.0	3.6
Female	No	2,279	449	74	438	1,174	146	550	195	93	191	144
	%	100.0	19.7	3.2	19.2	51.5	6.4	24.1	8.6	4.1	8.4	6.3
65 and over												
Male	No	887	127	89	122	478	60	124	105	85	104	71
	%	100.0	14.3	10.0	13.8	53.9	6.7	13.9	11.9	9.6	11.8	8.0
Female	No	1,132	388	45Q	245	332	57	117	42	18Q	97	122

Q: Sample error with a variation between 20% and 39% from given data.

Source: Health and Welfare and Statistics Canada, The Health of Canadians: Report of the Canada Health Survey, Ottawa, catalogue 82-538E, June 1981, Table, p.29.

TABLE 3: Percent Reporting Specified Problems by Level of Alcohol consumption[1], Alberta and Manitoba Teens (N= 395), 1981

Problems	Frequency	Alcohol Intake			Number of times drunk		
		Light (N=138) %	Medium (N=124) %	Heavy (N=133) %	None (N=132) %	1 - 3 (N=124) %	4 + (N=135) %
Trouble with teachers/ principal	Never	99	98	89	100	97	88
	1	1	2	7	-	3	7
	2+	0	0	5	-	-	4
Difficulties with friends	Never	93	86	62	99	85	59
	1	4	10	19	-	11	22
	2+	3	4	19	2	5	18
Driven when you've had a good bit to drink	Never	97	87	70	99	86	70
	1	2	7	9	1	8	10
	2+	-	3	21	-	5	19
Been criticized by date	Never	96	87	74	99	89	72
	1	2	11	17	2	10	18
	2+	1	2	8	-	2	8
Trouble with police	Never	98	94	75	99	94	75
	1	2	6	15	1	7	15
	2+	-	0	10	-	-	10
Trouble with parents/family	Never	86	72	50	92	65	51
	1	12	19	21	6	27	19
	2+	2	9	29	2	8	29

[1] Percentages do not always add to 100 because of rounding and/or small amounts of missindata (number missing never more than 3).

Source: Longwoods Research Group Limited. Alberta's Teen and Parent Benchmark Survey, Study done for the Alberta Alcoholism and Drug Abuse Commission, September 1982.

TABLE 4: Percentage of Regular Cigarette Smokers Among Males 15 and Over, by region and Age Group, Canada, 1966-81[1].

Age Group	Year	Canada	Atlantic	Québec	Ontario	Prairies	British Columbia
Total, 15 and over	1966	53.6	53.6	63.8	50.3	46.5	48.1
	1972	47.4	48.0	57.1	43.8	42.0	41.8
	1975	43.3	44.5	50.4	40.6	39.5	39.2
	1977	40.8	43.5	47.8	38.2	37.9	34.0
	1979	38.6	40.4	47.4	34.4	36.0	33.2
	1981	36.7	39.1	44.9	33.1	34.2	30.5
15 - 19	1966	35.1	34.3	47.7	29.4	27.9	26.6 Q
	1972	35.0	37.5	44.0	30.4	31.2	27.4
	1975	29.5	31.2	40.7	22.2	25.4	27.2
	1977	26.9	27.5	31.3	24.5 Q	25.8	*
	1979	26.8	29.5	37.3	18.9	26.5	24.8 Q
	1981	22.8	27.0	31.8	18.5	19.2	16.4
20 - 24	1966	60.1	59.7	69.1	57.6	49.1	56.5
	1972	52.6	53.9	61.3	47.8	47.5	49.5
	1975	48.3	52.5	59.2	40.8	44.4	43.4
	1977	45.2	49.2	48.3	42.0	45.6	42.3 Q
	1979	42.3	47.9	50.3	39.4	39.5	29.5 Q
	1981	39.9	45.2	44.5	38.2	35.2	35.2
25 - 44	1966	61.8	66.0	71.7	57.7	54.5	56.0
	1972	53.3	54.1	62.2	50.4	47.0	47.9
	1975	48.3	49.4	50.2	49.7	45.7	41.9
	1977	47.0	50.9	53.5	44.7	44.3	39.6
	1979	44.0	44.6	52.8	39.8	41.3	39.4
	1981	42.6	44.3	48.7	39.2	42.6	37.3
45 - 64	1966	57.8	59.2	67.7	54.6	51.1	52.8
	1972	50.0	52.2	61.4	45.4	44.9	43.3
	1975	46.5	47.2	55.8	42.6	43.0	41.8
	1977	42.3	45.7	52.5	38.9	37.8	33.9
	1979	40.5	45.0	48.8	36.8	36.7	35.2
	1981	39.3	41.2	51.4	35.0	33.9	32.1
65 and over	1966	32.3	28.2	37.2	31.9	31.1	30.0
	1972	30.4	28.4	39.2	28.2	28.7	23.3 Q
	1975	29.3	31.6	37.4	23.9	26.0	32.4
	1977	27.5	30.1	37.1 Q	25.3 Q	24.4	-
	1979	24.6	22.9	31.4	21.9	24.1	21.8 Q
	1981	21.3	25.5	29.9	17.5	19.9	14.9
Total, 20 and over	1966	56.7	57.5	66.7	53.6	49.5	51.0
	1972	49.5	50.2	59.5	46.0	43.8	43.8
	1975	45.6	47.2	52.1	43.5	42.0	41.0
	1977	43.0	46.4	50.6	40.4	39.9	35.4
	1979	40.4	42.3	49.0	36.7	37.5	34.3
	1981	38.7	41.1	46.7	35.0	33.9	32.1

[1] Data on age groups by region are not available for 1965 and 1970; 1966 and 1972 are used as reference years.

Source: Statistics Canada. Supplementary Measures of Unemployment, taken from Millar, W.J., Smoking Habits of Canadians in 1981, Table 3, p. 25.

TABLE 5: Percentage of Regular Cigarette Smokers Among Females 15 and Over, by Region and Age Group, Canada, 1966-81[1].

Age Group	Year	Canada	Atlantic	Québec	Ontario	Prairies	British Columbia
Total, 15 and over	1966	32.1	28.8	33.4	31.5	30.3	36.5
	1972	32.4	29.8	37.2	29.6	31.0	33.3
	1975	31.4	30.3	34.6	30.1	29.9	30.3
	1977	31.1	32.5	35.5	28.8	29.8	28.8
	1979	30.1	30.1	34.6	27.9	29.6	26.9
	1981	28.9	29.0	33.4	27.2	27.1	26.1
15 - 19	1966	20.0	17.8	23.7	17.6	18.0	24.4 Q
	1972	28.4	25.2	38.6	23.1	25.9	24.8 Q
	1975	27.4	24.4	33.3	24.2	26.3	26.4
	1977	26.7	28.1	32.8	22.2 Q	24.1	28.2 Q
	1979	26.0	22.8	33.0	22.3	25.9	23.1 Q
	1981	23.4	21.2	32.4	19.4	23.2	16.6
20 - 24	1966	43.4	40.5	41.8	42.9	44.7	50.0
	1972	40.6	38.6	46.3	37.3	39.6	38.3
	1975	38.3	40.5	40.9	33.1	39.7	43.1
	1977	40.7	43.1	49.6	36.7	38.2	31.4 Q
	1979	39.8	42.6	45.9	34.6	40.5	37.9
	1981	40.8	39.0	48.1	40.3	38.0	30.6
25 - 44	1966	31.4	41.1	41.2	40.2	40.5	43.8
	1972	38.8	37.7	43.3	34.7	39.6	40.7
	1975	37.0	38.8	39.3	36.1	36.6	33.1
	1977	36.6	40.4	39.6	33.6	37.7	34.3
	1979	36.0	38.2	40.6	33.1	36.1	31.9
	1981	33.4	37.4	37.2	30.6	32.2	31.6
45 - 64	1966	31.7	26.7	32.6	32.4	27.6	38.1
	1972	31.6	27.4	32.9	31.6	29.2	35.3
	1975	31.8	27.4	36.1	31.9	27.4	30.8
	1977	30.5	29.8	33.8	29.5	27.8	29.5
	1979	28.9	27.0	32.3	29.0	25.3	26.5
	1981	28.5	27.2	31.5	28.4	24.9	27.0
65 and over	1966	8.3		7.7 Q	7.8 Q	-	15.3 Q
	1972	10.4		12.8	9.7 Q	8.6 Q	10.9 Q
	1975	10.8	7.8 Q	9.3 Q	12.0	11.3 Q	12.3 Q
	1977	12.0	10.4 Q	-	12.5 Q	9.9 Q	-
	1979	10.6	9.2 Q	10.3 Q	10.7 Q	12.4	-
	1981	10.8	7.7	12.0	10.8	8.8	13.5
Total, 20 and over	1966	34.0	31.1	35.1	33.5	32.3	38.4
	1972	33.0	30.6	36.9	30.6	31.7	34.4
	1975	32.0	31.4	34.8	31.0	30.5	30.8
	1977	31.8	33.2	35.9	29.7	30.7	28.9
	1979	30.7	31.3	34.9	28.7	30.2	27.4
	1981	29.6	30.2	33.5	28.2	27.6	27.2

[1] Data on age groups by region are not available for 1965 and 1970: 1966 and 1972 are used as reference years.

Source: Statistics Canada, Supplementary Measures of Unemployment, taken from Millar, W.J., Smoking Habits of Canadians in 1981, Table 4, p. 26.

TABLE 6: Proportion of Population 15 and Over Reporting Daily Cigarette Smoking, by Age and Sex, in the Smoking Habits of Canadians Survey, December 1977 and December 1979, and Canada Health Survey, 1978-79.

Sex and Age	Percentage of Population who are Daily Smokers		
	Smoking Habits of Canadians		Canada Health Survey
	December 1977	Decembre 1979	1978-79
Men:			
All ages	40.8	38.6	43.8
15-19	26.9	26.8	34.7
20-24	45.2	42.3	50.8
25-44	47.0	44.0	46.7
45-64	42.3	40.5	45.0
65+	27 5	24 6	33 0
Women:			
All ages	31.1	30.1	35.8
15-19	26.7	26.0	35.6
20-24	40.7	39.8	46.5
25-44	36.6	36.0	38.9
45-64	30.5	28.9	34.8
65+	12.0	10.6	16.2

Source: Statistics Canada, The Health of Canadians: Report of the Canada Health Survey, op. cit., Text Table IV, p. 48.

TABLE 7: Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Sex, Canada, 1978-79

Age and Sex		Type of cigarette smoker										
		Total	Never smoked	Former smoker	Current occa-sional smoker	Current daily smokers and number of cigarettes smoked daily						Type of smoker unknown
						Total	1-12	13-22	23-32	33 and over	Number unknown	
		in thousands										
Age 15 and over:												
Both sexes	No.	17,492	5,393	3,941	557	6,525	1,803	2,393	1,626	552	152	1,076
	%	100.0	30.8	22.5	3.2	37.3	10.3	13.7	9.3	3.2	0.9	6.1
Male	No.	8,584	1,984	2,317	224	3,545	801	1,251	1,009	387	97	495
	%	100.0	23.1	27.0	2.8	41.3	9.3	14.6	11.8	4.5	1.1	5.8
Female	No.	8,907	3,409	1,624	313	2,981	,002	1,142	617	164	55	581
	%	100.0	38.3	18.2	3.5	33.5	11.2	12.8	6.9	1.8	0.6	6.5
15-19:												
Male	No.	1,187	511	167	43	383	169	154	39	- -	- -	83
	%	100.0	43.0	14.0	3.6	32.3	14.2	12.9	3.3	- -	- -	7,0
Female	No.	1,146	440	190	71	388	193	133	51	- -	- -	56 Q
	%	100.0	38.4	16.6	6.2	33.9	16.9	11.6	4.4	- -	- -	4.9 Q
20-24:												
Male	No.	1,106	298	188	39 Q	541	139	198	156	41	- -	40 Q
	%	100.0	27.0	17.0	3.5 Q	48.9	12.5	17.9	14.1	3.7	- -	3.6 Q
Female	No.	1,108	309	219	48	501	187	209	80	20Q	- -	31
	%	100.0	27.9	19.8	4.3	45.2	16.9	18.9	7.2	1.8Q	- -	2.8
25-44:												
Men	No.	3,230	694	845	104	1,440	217	524	482	199	18Q	146
	%	100.0	21.5	26.2	3.2	44.6	6.7	16.2	14.9	6.2	0.5Q	4.5
Female	No.	3,242	1,078	692	130	1,208	314	470	312	89	23Q	134
	%	100.0	33.3	21.4	4.0	37.2	9.7	14.5	9.6	2.7	0.7Q	4.1
45-64:												
Male	No.	2,174	330	752	40	918	180	290	289	130	29	134
	%	100.0	15.2	34.6	1.8	42.2	8.3	13.3	13.3	6.0	1.3	6.1
Female	No.	2,279	917	395	49	728	224	294	160	39Q	11Q	189
	%	100.0	40.2	17.3	2.1	32.0	9.8	12.9	7.0	1.7Q	0.5Q	8.3
65 and over:												
Male	No.	887	150	365	18 Q	262	96	85	44	- -	26	93
	%	100.0	16.9	41.2	2.0 Q	29.5	10.8	9.5	4.9	- -	3.0	10.4
Female	No.	1,132	665	127	15 Q	156	84	37	14Q	- -	- -	169
	%	100.0	58.8	11.2	1.3 Q		13.7	7.4	1.2Q	1.2Q	- -	15.0

Q: Sampling error varying between 20% and 39% from given data.

Source: Statistics Canada, The Health of Canadians: Report of the Canada Health Survey, op. cit., Table 11, p. 50.

TABLE 8: Percentage of Students[1] who Used Drugs or Alcohol in the last Twelve Months[2], by Age, Ontario, 1977, 1978, 1981, 1983[3]

Type of drug	Age	Year			
		1977	1979	1981	1983
Tobacco	13	13.5 ± 5.0	18.8 ± 5.0	8.8 ± 0.9	12.7 ± 5.6
	14-15	32.4 ± 4.1	36.8 ± 3.9	31.1 ± 5.9	33.6 ± 1.2
	16-17	42.5 ± 4.3	46.7 ± 4.0	42.7 ± 5.8	44.0 ± 6.1
	18+	37.8 ± 6.0	36.4 ± 5.6	26.9 ±10.2	31.9 ± 2.5
Alcohol	13	57.5 ± 3.5	56.8 ± 3.7	47.6 ± 5.6	52.7 ± 5.9
	14-15	75.3 ± 2.4	75.3 ± 2.5	74.6 ± 3.8	71.1 ± 2.6
	16-17	88.3 ± 1.9	89.6 ± 1.8	85.0 ± 4.2	88.5 ± 2.6
	18+	94.8 ± 1.7	91.5 ± 2.0	89.8 ± 5.3	89.9 ± 1.7
Cannabis	13	5.7 ± 5.2	9.6 ± 5.3	5.7 ± 1.9	3.9 ± 1.9
	14-15	21.7 ± 4.4	28.1 ± 4.2	25.3 ± 2.9	24.3 ± 2.9
	16-17	41.4 ± 4.3	49.5 ± 3.9	45.5 ± 6.6	40.8 ± 4.3
	18+	42.5 ± 5.8	45.1 ± 5.2	37.1 ± 5.2	40.4 ± 2.1
Glue	13	6.1 ± 5.2	7.1 ± 5.4	3.4 ± 1.8	4.7 ± 0.9
	14-15	4.1 ± 4.8	5.0 ± 4.8	3.1 ± 0.7	4.0 ± 0.8
	16-17	2.1 ± 5.7	2.3 ± 5.5	1.6 ± 0.6	1.6 ± 0.8
	18+	2.0 ± 7.5	1.9 ± 6.8	0.1 ± 0.2	0.8 ± 0.6
Other Solvents	13	12.0 ± 5.1	9.3 ± 5.3	5.0 ± 2.1	6.6 ± 1.0
	14-15	6.8 ± 4.8	7.9 ± 4.8	4.8 ± 1.1	4.2 ± 1.7
	16-17	2.8 ± 5.6	3.6 ± 5.4	1.5 ± 0.7	2.1 ± 0.8
	18+	2.0 ± 7.5	2.3 ± 6.8	0.4 ± 0.5	1.2 ± 0.6
Barbiturates (P)	13	7.2 ± 5.2	8.8 ± 5.3	6.4 ± 3.1	7.7 ± 2.3
	14-15	14.1 ± 4.6	13.2 ± 4.6	13.6 ± 2.0	10.7 ± 1.6
	16-17	19.9 ± 5.1	15.3 ± 5.1	14.2 ± 2.6	14.2 ± 3.5
	18+	18.3 ± 6.9	14.1 ± 6.5	13.3 ± 3.3	13.6 ± 2.1
Barbiturates (NP)	13	2.5 ± 5.3	2.6 ± 5.5	1.1 ± 0.6	1.3 ± 0.9
	14-15	6.7 ± 4.8	6.9 ± 4.8	8.5 ± 3.9	6.2 ± 1.0
	16-17	8.7 ± 5.4	11.3 ± 5.2	13.2 ± 4.2	11.3 ± 3.3
	18+	6.6 ± 7.3	5.4 ± 6.8	3.9 ± 1.9	7.7 ± 1.5
Heroin	13	1.6 ± 5.4	1.7 ± 5.5	0.6 ± 0.3	1.3 ± 0.7
	14-15	2.5 ± 4.8	2.8 ± 4.9	2.0 ± 0.7	2.1 ± 1.0
	16-17	1.6 ± 5.6	2.3 ± 5.5	1.7 ± 0.8	2.1 ± 0.8
	18+	2.0 ± 7.5	1.9 ± 6.8	0.4 ± 0.6	0.7 ± 0.6
Speed	13	2.4 ± 5.3	2.0 ± 5.4	1.0 ± 0.2	0.9 ± 0.6
	14-15	2.9 ± 4.9	3.7 ± 4.8	3.2 ± 1.2	6.6 ± 5.3
	16-17	2.7 ± 5.6	4.4 ± 5.4	4.3 ± 1.3	4.7 ± 1.3
	18+	3.1 ± 7.5	4.3 ± 6.8	2.4 ± 1.0	3.6 ± 1.3
Stimulants (P)	13	5.6 ± 5.3	3.9 ± 5.5	4.2 ± 0.7	4.2 ± 0.4
	14-15	6.0 ± 4.8	5.9 ± 4.8	6.9 ± 1.0	5.8 ± 1.4
	16-17	9.0 ± 5.4	7.8 ± 5.3	6.7 ± 1.7	6.2 ± 2.5
	18+	5.5 ± 7.4	5.7 ± 6.8	4.9 ± 3.5	4.6 ± 1.6

See notes and source on the following page.

TABLE 8: Percentage of Students[1] who Used Drugs or Alcohol in the Last Twelve Months[2], by Age, Ontario, 1977,1979, 1981 and 1983[3].

		Year			
	Age	1977	1979	1981	1983
Stimulants (NP)	13	3.4 ± 5.3	3.9 ± 5.5	3.2 ± 1.0	2.7 ± 1.2
	14-15	8.9 ± 4.7	10.1 ± 4.7	11.9 ± 2.1	15.2 ± 2.6
	16-17	9.5 ± 5.4	17.9 ± 5.0	18.6 ± 4.4	27.6 ± 5.8
	18+	6.6 ± 7.3	10.1 ± 6.6	8.3 ± 2.9	25.6 ± 2.4
Tranquillizers (P)	13	6.1 ± 5.2	5.4 ± 5.4	3.4 ± 1.2	4.0 ± 1.1
	14-15	9.1 ± 4.7	5.7 ± 4.8	7.6 ± 1.7	6.2 ± 1.6
	16-17	10.1 ± 5.4	8.5 ± 5.3	9.6 ± 2.0	9.2 ± 1.2
	18+	9.7 ± 7.2	8.5 ± 6.7	7.6 ± 2.6	8.0 ± 1.7
Tranquilliizers (NP)	13	1.9 ± 5.4	2.4 ± 5.5	1.4 ± 0.7	1.9 ± 0.8
	14-15	5.6 ± 4.8	6.0 ± 4.8	6.1 ± 1.7	6.2 ± 1.9
	16-17	6.8 ± 5.5	8.6 ± 5.3	6.7 ± 1.7	6.7 ± 2.7
	18+	6.0 ± 7.4	6.6 ± 6.7	2.2 ± 1.8	6.8 ± 2.0
LSD	13	2.2 ± 5.3	3.6 ± 5.4	1.8 ± 1.3	1.4 ± 0.9
	14-15	5.6 ± 4.8	8.3 ± 4.7	9.7 ± 3.1	9.2 ± 1.1
	16-17	9.9 ± 5.4	13.9 ± 5.1	16.3 ± 4.1	15.7 ± 3.1
	18+	8.4 ± 7.3	8.4 ± 6.7	8.5 ± 2.3	12.0 ± 3.1
Other Hallucinogen	13	1.0 ± 5.3	1.7 ± 5.9	0.7 ± 0.3	0.7 ± 0.7
	14-15	3.2 ± 4.8	4.0 ± 4.9	4.4 ± 2.8	5.4 ± 1.8
	16-17	7.4 ± 5.5	9.2 ± 5.2	7.2 ± 2.4	11.5 ± 2.5
	18+	8.3 ± 7.3	7.2 ± 6.7	4.5 ± 2.8	10.4 ± 2.3
Cocaine	13	2.3 ± 5.3	3.7 ± 5.5	2.5 ± 0.9	2.7 ± 0.9
	14-15	4.3 ± 4.8	5.6 ± 4.8	5.4 ± 1.8	3.9 ± 1.6
	16-17	4.2 ± 5.6	5.9 ± 5.3	5.6 ± 1.6	5.4 ± 1.7
	18+	4.3 ± 7.4	5.3 ± 6.8	3.6 ± 2.3	5.9 ± 1.6
PCP	13	n	n	1.1 ± 1.2	1.0 ± 0.4
	14-15	n	n	2.5 ± 2.1	2.6 ± 0.4
	16-17	n	n	3.6 ± 1.0	2.7 ± 1.5
	18+	n	n	1.6 ± 1.1	2.1 ± 1.5

1 Study done from a sample of 5,835 students from regular programs of level 5, 7, 9, 11 and 13 of the Ontario public and private (Catholic) school systems.

2 The level of confidence is 95%, i.e. the average of the population has 95% chance to be within the given limits. For example, the percentage of students aged 13 years old and less, in the 1983 survey, who used tobacco is 12.7% ± 5.6% which means that there is a 95% chance that the real percentage of students aged 13 or less in Ontario who have smoked during the previous year is between a minimum of 7.1% and a maximum of 18.3%.

3 The 1981 and 1983 surveys used the same sampling method which is different from the one used in 1977 and 1979.

(P) Prescription

(NP) Non-prescription

n Not queried

Source: SMART, R.J. et al. Preliminary report of alcohol and other drug use among Ontario students in 1983, and trends since 1977, Table 4.

TABLE 9: Illicit Narcotic Drug Users in Canada Known to the Bureau of Dangerous Drugs[1], by Sex and Age-group, 1956 to 1982

	1956	1966	1969	1971	1973	1976[2]	1977	1978	1979	1980	1981	1982
Male												
Under 20	22	6	33	254	438	671	710	494	278	172	160	154
20-24	139	141	207	1,039	2,517	3,304	3,495	3,349	2,929	2,267	2,014	1,804
25-29	275	342	371	671	1,474	3,489	4,166	4,685	4,931	3,554	3,846	4,046
30-39	523	693	794	1,009	1,265	2,107	2,666	3,334	4,121	3,073	3,744	4,442
40 and over	700	768	901	983	991	1,158	1,263	1,401	1,419	883	1,020	1,206
Age unknown	294	216	296	664	885	921	975	936	914	317	327	349
TOTAL	1,953	2,166	2,602	4,620	7,570	11,640	13,275	14,199	14,592	10,266	11,111	11,996
Female												
Under 20	16	9	23	147	271	155	152	106	67	38	45	50
20-24	98	161	157	373	897	1,275	1,222	1,084	856	631	540	473
25-29	141	236	296	349	511	951	1,210	1,474	1,619	1,100	1,208	1,257
30-39	194	304	340	463	492	682	803	927	1,071	743	940	1,134
40 and over	164	195	212	237	194	254	284	311	321	199	218	289
Age unknown	112	111	133	236	315	297	296	285	274	84	95	96
TOTAL	725	1,016	1,161	1,805	2,680	3,614	4,567	4,190	4,208	2,795	3,046	3,299

[1] The data previous to 1972 is grouped under the title: "Total street or criminal addict population" (the first French version appeared, with the notion of user, in 1972)

[2] Since 1976, certain changes in the methods of gathering and compiling data, as well as definitions of categories, have not allowed direct comparison with data from previous years

Source: Data from Bureau of Dangerous Drugs Annual Reports, Health Protection Branch, Health and Welfare Canada

TABLE 10: Population by Class of Drug Use[1], by Age and Sex, Canada, 1978-79

Age and sex		Class of Drug Use											
		Total	Pain relievers	Tranquillizers or sleeping pills	Heart/Blood pressure medicine	Antibiotics	Stomach medicine	Laxatives	Cold remedies	Skin Ointments	Vitamins	Other drugs	Any drug use
		in thousand											
All ages:													
Both sexes	No.	23,023	3,138	1,096	1,564	618	726	592	1,450	1,293	5,167	1,800	11,021
	%	100.0	13.6	4.8	6.8	2.7	3.2	2.6	6.3	5.6	22.4	7.8	47.9
Male	No.	11,417	1,180	347	614	265	337	173	670	497	2,207	572	4,658
	%	100.0	10.3	3.0	5.4	2.3	2.9	1.5	5.9	4.4	19.3	5.0	40.8
Female	No.	11,606	1,958	749	950	352	389	419	780	796	2,960	1,229	6,363
	%	100.0	16.9	6.5	8.2	3.0	3.4	3.6	6.7	6.9	25.5	10.6	54.8
Less than 5:													
Male	No.	880	80	- -	- -	41	- -	- -	138	72	394	220	511
	%	100.0	9.1	- -	- -	4.6	- -	- -	15.6	8.2	44.7	2.5Q	58.0
Female	No.	838	81	- -	- -	39	- -	- -	103	69	383	190	502
	%	100.0	9.6	- -	- -	4.7	- -	- -	12.3	8.2	45.7	2.3Q	59.9
5-9:													
Male	No.	914	66	- -	- -	26Q	- -	- -	115	39	257	200	398
	%	100.0	7.2	- -	- -	2.8Q	- -	- -	12.6	4.2	28.1	2.2Q	43.5
Female	No.	868	54	- -	-	26Q	- -	- -	101Q	38Q	227	15	349
	%	100.0	6.2	- -	-	3.0Q	- -	- -	11.6Q	4.3Q	26.1	1.7	40.2
10-14:													
Male	No.	1,038	66	- -	- -	17Q	- -	- -	65	37Q	218	27Q	348
	%	100.0	6.4	- -	- -	1.7Q	- -	- -	6.3	3.6Q	21.0	2.6Q	33.6
Female	No.	992	92	- -	- -	18Q	- -	- -	81	59	213	23	370
	%	100.0	9.2	- -	- -	1.8Q	- -	- -	8.1	5.9	21.5	2.4	37.3
15-19:													
Male	No.	1,187	76	- -	- -	31	- -	- -	48	84	161	29Q	340
	%	100.0	6.4	- -	- -	2.6	- -	- -	4.0	7.1	13.6	2.5Q	28.6
Female	No.	1,146	127Q	- -	- -	35	13Q	- -	55	102	228	47	450
	%	100.0	11.1Q	- -	- -	3.0	1.1Q	- -	4.8	8.9	19.9	4.1	39.3
20-24:													
Male	No.	1,106	94Q	- -	- -	23	24Q	- -	42	43	158	30Q	317
	%	100.0	8.5Q	- -	- -	2.1	2.1Q	- -	3.8	3.9	14.3	2.7Q	28.6
Female	No.	1,108	162	25	- -	39	27	16Q	66	97	292	106	558
	%	100.0	14.6	2.3	- -	3.5	2.5	1.4Q	6.0	8.8	26.3	9.6	50.3
25-44:													
Male	No.	3,230	36?	77	45	56Q	129	25Q	143	116	458	8A	1,099
	%	100.0	11.2	2.4	1.4	1.7Q	4.0	0.8Q	4.4	3.6	14.2	2.6	34.0
Female	No.	3,242	640	168	56Q	111	115	92	183	217	814	317	1,733
	%	100.0	19.8	5.2	1.7Q	3.4	3.6	2.8	5.6	6.7	25.1	9.8	53.5
45-64:													
Male	No.	2,174	293	143	307	56	95	37	81	63	395	194	1,057
	%	100.0	13.5	6.6	14.1	2.6	4.4	1.7	3.7	3.0	18.2	8.9	48.6
Female	No.	2,279	524	311	426	60Q	139	151	122	148	536	437	1,528
	%	100.0	23.0	13.7	18.7	2.6Q	6.1	6.6	5.3	6.5	23.5	19.2	67.1
65 and over:													
Male	No.	887	143	92	258	16Q	63	83	38	42	166	163	589
	%	100.0	16.1	10.4	29.1	1.8Q	7.1	9.3	4.3	4.7	18.8	18.6	66.4
Female	No.	1,132	279	223	463	25Q	81	140	69	66	266	263	872
	%	100.0	24.6	19.7	40.9	2.2Q	7.1	12.3	6.1	5.9	23.5	23.2	77.0

[1] Deals with the use of drugs, ointments or pills in the last two days.

Q: Sampling error varying between 20% and 39% from given data

Source: Statistics Canada. The Health of Canadians: Report on the Canada Health Survey, op.cit., table 95, p.184.

TABLE 11: Percentage of Sample Who Had Used Specific Types of Prescribed Drugs, According to Socio-economics and Demographic characteristics[1], Canada, 1977.

Characteristics	Anti-biotics (n=109) %	Analge-sics (n=143) %	Anti-hyper-intensives (n=105) %	Cardiac Medi-cation (n=71) %	Seda-tives (n=63) %	Tranquil-lizers (n=15) %	Antihis-tamines (n=55) %
Age							
18-29 years	7.1	6.2	1.1	-	0.6	1.9	3.1
30-49 years	4.3	7.4	1.5	0.6	2.5	6.4	2.9
50+	4.3	6.7	13.7	7.3	5.9	8.3	1.9
Sex							
Male	5.0	6.4	5.0	4.2	2.2	3.6	1.6
Female	5.5	7.3	5.1	2.6	3.8	7.4	3.7
Region							
Atlantic	5.0	8.5	7.0	3.5	1.5[2]	7.0[2]	3.0
Quebec	4.4	6.9	5.1	4.2	3.7	5.9	1.0
Ontario	5.4	6.6	5.4	3.5	2.7	5.8	3.3
Prairies	6.7	4.1	3.5	1.2	4.1	4.4	2.4
B.C.	4.5	10.5	4.0	4.5	2.0	3.5	5.0
Community Size							
Under $10,000	5.0	7.4	4 1	3 1	3 3	6 4	2 6
$10,000 - $100,000	6.7	8.3	6.4	4.7	1.9	4.4	2.5
Over $100,000	4.8	5.9	5.2	3.1	3.2	5.2	2.7
Household Income							
Under $10,000	4.4	6.9	10 6	7 8	5 5	8 0	2 8
$10,000 - $14,999	5.3	5.5	2.9	1.8	1.1	4.9	2.2
$15,000+	5.2	7.6	2.9	1.3	2.3	3.9	3.4
Education							
Public/none	3.5	7.1	7 4	8 1	4 4	7 8	1 4
Secondary	5.3	6.3	5.0	2.2	2.8	5.3	2.6
University	7.5	9.3	1.9	2.2	1.5	3.4	4.9

1 The data in this table are limited only to those drugs which were used by more than 40 respondents during the previous two weeks. Oral Contraceptives are excluded.

2 It is likely that there is some degree of over-lap between these two categories which will be adjusted in a more detailed analysis of psychotropic drug use when a more refined measure will be developed. A redistribution of some of these responses may minimize the differentials between the Atlantic and other regions.

Source: Pool, J.P. Consumption of prescribed drugs in Canada, Ottawa: Health and Welfare Canada, 1977, Table 10.

TABLE 12: Population 15 Years and Over by Level of Physical Activity, by Age and Sex, Canada, 1981.

Age and sex		Level of physical activity				
		Total	Active	Moderate	Sedentary	Unknown
		in thousands				
Age 15 and over						
Both sexes	No.	18,815	10,172	6,079	2,175	389 Q
	%	100	54	32	12	2 Q
Male	No.	9,231	5,041	3,100	874	--
	%	100	55	34	9	--
Female	No.	9,584	5,130	2,979	1,301	--
	%	100	54	31	14	--
15-19:						
Male	No.	1,178	811	277	--	--
	%	100	69	24	--	--
Female	No.	1,129	759	275	--	--
	%	100	67	24	--	--
20-24:						
Male	No.	1,171	720	372	--	--
	%	100	62	32	--	--
Female	No.	1,166	660	395	--	--
	%	100	57	34	--	--
Age 25 and over						
Male	No.	6,883	3,510	2,451	743	--
	%	100	51	36	11	--
Female	No.	7,288	3,712	2,309	1,127	--
	%	100	51	32	15	--

Source: Survey Physical Fitness Canada, special compilations.

TABLE 13: Population by Frequency of Consultations with a Dentist During Last 12 Months, by Age and Sex, Canada, 1978-79

Age and sex		Number of consultations					
		Total	No consultation	1-2 consultations	3-5 consultations	6 consultations and over	Unknown
		in thousands					
All ages:							
Both sexs	No.	23,023	11,443	8,909	1,900	643	128
	%	100.0	49,7	38,7	8,3	2,8	0,6
Male	No.	11,417	5,892	4,319	860	272	73
	%	100.0	51.6	37.8	7.5	2.4	0.6
Female	No.	11,606	5,551	4,589	1,039	372	55 Q
	%	100.0	47.8	39.5	9.0	3.2	0.5 Q
Less than 5:							
Male	No.	880	715	140	17 Q	5	—
	%	100.0	81.2	15.9	1.9 Q	0.6	—
Female	No.	838	653	152	28 Q	-	—
	%	100.0	77.9	18.1	3.3 Q	-	—
5-9:							
Male	No.	914	229	542	122	19	—
	%	100.0	25.1	59.2	13.3	2.1	—
Female	No.	868	194	508	127	—	—
	%	100.0	22.3	58.5	14.7	—	—
10-14:							
Male	No.	1,038	274	598	114	47	—
	%	100.0	26.4	57.6	11.0	4.5	—
Female	No.	992	218	587	106	76	—
	%	100.0	22.0	59.2	10.6	7.7	—
15-19:							
Male	No.	1,187	502	535	111	35	5
	%	100.0	42.2	45.1	9.3	2.9	0.4
Female	No.	1,146	386	544	151	53	—
	%	100.0	33.7	47.5	13.2	4.6	—
20-24:							
Male	No.	1,106	560	426	74	27 Q	19 Q
	%	100.0	50.6	38.5	6.7	2.5 Q	1.7 Q
Female	No.	1,108	465	475	119	40	—
	%	100.0	41.9	42.9	10.7	3.6	—
25-44:							
Male	No.	3,230	1,624	1,228	262	95	21 Q
	%	100.0	50.3	38.0	8.1	3.0	0.6 Q
Female	No.	3,242	1,418	1,396	310	108	—
	%	100.0	43.7	43.1	9.6	3.3	—
45-64:							
Male	No.	2,174	1,302	685	135	36	15 Q
	%	100.0	59.9	31.5	6.2	1.7	.7 Q
Female	No.	2,279	1,342	725	157	50	—
	%	100.0	58.9	31.8	6.9	2.2	—
65 and over:							
Male	No.	887	686	165	26	—	—
	%	100.0	77.3	18.6	2.9	—	—
Female	No.	1,132	875	203	42	12 Q	—
	%	100.0	77.3	17.9	3.7	1.1 Q	—

Q: Sampling error varying between 20% and 39% from given data.
Source: The Health of Canadians: Report of the Canada Health Survey, op. cit., Table 88, p. 171

TABLE 14: Fertility Rate by Age and Synthetic Index of Fertility (per 1000 women), Canada, 1970-82.

Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Synthetic index of Fertility
1970	42.8	143.3	147.2	81.8	39.0	11.3	0.9	2.331
1971	40.1	134.4	142.0	77.3	33.6	9.4	0.6	2.187
1972	38.5	199.8	137.1	72.1	28.9	7.8	0.6	2.024
1973	37.2	117.7	131.6	67.1	25.7	6.4	0.4	1.931
1974	35.3	113.1	131.1	66.6	23.0	5.5	0.4	1.875
1975	35.3	112.7	131.2	6.,	21.6	4.8	0.4	1.852
1976	33.4	110.3	129.9	65.6	21.1	4.3	0.3	1.825
1977	32.0	108.0	129.8	67.1	20.5	3.6	0.3	1.806
1978	29.7	103.1	128.1	67.1	19.5	3.4	0.2	1.764
1979	27.9	101.8	130.8	69.1	19.5	3.4	0.2	1.764
1980	27.6	100.1	129.4	69.3	19.4	3.1	0.2	1.746
1981	26.4	96.7	126.9	68.0	19.4	3.2	0.2	1.704
1982	26.5	95.4	124.7	68.6	20.2	3.1	0.2	1.694
Difference 1970-82	16.3	47.9	22.5	13.2	18.8	8.2	0.7	0.637
Relative change (%) 1970-82	38.1	33.4	15.3	16.1	48.2	72.6	77.8	27.3

Source: Statistics Canada, Vital Statistics. - Ottawa: Statistics Canada, Vol. 1, Births and Deaths (catalogue 84-204)

TABLE 15: Number of Therapeutic Abortions and Rate per Thousand Women, by Age, Canada, 1974-1981

Age	1974		1975		1976		1977		1978		1979		1980		1981	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
15-19	12,481	11	14,763	13	15,952	14	16,916	15	18,232	16	18,966	16	18,796	16	17,725	16
20-24	12,081	12	14,268	14	16,033	15	17,307	16	19,095	17	20,364	18	20,760	18	20,864	18
25-44	16,018	6	19,266	6	21,292	7	22,041	7	23,726	7	24,450	7	24,998	7	25,319	7

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. - Ottawa: Statistics Canada, 82-545E, 1985, Table 15

TABLE 16: Number and percentage of Births Among Single Mothers, by Age, Canada, 1979, 1980, 1981

Mother's Age	Number			Percentage of Births		
	1979	1980	1981	1979	1980	1981
Under 15	297	260	262	0.8	0.6	0.6
15 - 19	16,671	17,188	17,217	43.2	41.0	37.8
20 - 24	14,059	15,770	17,699	36.4	37.5	38.8
25 - 29	5,259	6,035	7,124	13.6	14.4	15.6
30 - 34	1,812	2,119	2,557	4.7	6.1	5.6
35 - 39	442	478	613	1.1	1.5	1.3
40 - 44	71	81	94	0.2	0.2	0.2
45 - 49	6	3	2	—	—	—
Not declared	16	21	17	—	—	—
Total	38,633	41,955	45,585	100.0	100.0	100.0

Source: Statistics Canada. Vital Statistics, Volume 1, Births and Deaths, Catalogue 84-204, Ottawa, 1981, and unpublished data.

TABLE 17: Number and Distribution of Therapeutic Abortions, by Age and Province of Residence of the Woman, Canada, 1981

		Total[1]	15 - 19	20 - 24	25 - 44
CANADA	#	64,554	17,725	20,864	25,319
	%	100	27	32	39
Newfoundland	#	470	152	140	165
	%	100	32	30	35
Prince Edward Island	#	27	8	7	11
	%	100	30	26	41
Nova Scotia	#	1,689	545	569	553
	%	100	32	34	33
New Brunswick	#	444	157	161	111
	%	100	35	36	25
Québec	#	9,042	1,888	2,796	4,280
	%	100	21	31	47
Ontario	#	30,463	8,437	9,565	12,186
	%	100	28	31	40
Manitoba	#	1,610	502	535	543
	%	100	31	33	34
Saskatchewan	#	1,627	613	536	459
	%	100	38	33	28
Alberta	#	6,757	2,125	2,467	2,093
	%	100	31	37	31
British Columbia	#	12,123	3,218	3,980	4,813
	%	100	27	33	40
Yukon	#	123	30	44	49
	%	100	24	36	40
Northwest Territories	#	179	50	64	56
	%	100	28	36	31

[1] The total includes abortions among women under 15 and over 44.

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health, Op. Cit., Table 17.

TABLE 18: Number of Cases and Rate (per 100,000) of Notifiable Sexually Transmitted Disease by Age Group and Sex, Canada, 1980-81[1].

Age	Year	Males		Females		Total[2]	
		Cases	Rate	Cases	Rate	Cases	Rate
Less than 1	1980	20	11.3	27	16.1	48	13.9
	1981	14	7.5	15	8.5	29	8.0
1 - 4	1980	0	0.0	36	5.4	36	2.6
	1981	7	1.0	29	4.2	36	2.5
5 - 9	1980	6	0.7	34	4.0	40	2.3
	1981	9	1.0	39	4.5	48	2.7
10 - 14	1980	45	4.5	196	20.7	241	12.4
	1981	54	5.5	222	23.7	276	14.4
15 - 19	1980	3,984	336.7	6,110	542.5	10,095	438.3
	1981	4,478	378.8	6,956	614.0	11,434	493.9
20 - 24	1980	11,082	993.2	7,312	663.5	18,394	828.2
	1981	12,246	1,042.8	8,127	694.9	20,373	869.2
25 - 29	1980	7,872	746.1	3,372	318.3	11,245	531.8
	1981	8,285	764.2	3,576	327.1	11,861	544.8
30 - 39	1980	7,169	407.4	2,110	121.7	9,279	265.6
	1981	7,621	413.3	2,260	123.8	9,881	269.3
40 - 59	1980	2,715	115.2	691	28.9	3,406	71.7
	1981	2,621	104.8	712	28.3	3,334	66.4
60+	1980	410	30.7	324	19.4	734	24.4
	1981	394	26.7	248	13.3	642	19.2
Total[3]	1980	34,618	291.4	21,412	177.9	56,274	235.3
	1981	36,385	301.4	22,692	184.9	59,200	243.3

1 1980 rates are based on population estimates and 1981 rates are based on census figures.

2 Totals include cases not specified for sex.

3 Totals include cases not specified for sex and age.

Source: Health and Welfare Canada, Sexually Transmitted Diseases in Canada, Bureau of Epidemiology, Centre for Disease Control, Health Protection Branch, 1981, Table 3, p. 6.

TABLE 19: Population 15 Years and Over by "Affect Balance Scale" Scores, by Age and Sex, Canada, 1978-79.

Age and sex		Affect Balance Scale Scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Age 15 and over:						
Both sexes	#	17,492	7,956	7,081	770	1,686
	%	100.0	45.5	40.5	4.4	9.6
Males	#	8,584	4,017	3,467	304	797
	%	100.0	46.8	40.4	3.5	9.3
Females	#	8,907	3,939	3,614	466	888
	%	100.0	44.2	40.6	5.2	10.0
15-19:						
Males	#	1,187	494	590	45	58
	%	100.0	41.6	49.7	3.8	4.9
Females	#	1,146	458	565	78	45 Q
	%	100.0	39.9	49.3	6.8	4.0 Q
20-24:						
Males	#	1,106	520	498	39	50 Q
	%	100.0	47.0	45.0	3.5	4.5 Q
Females	#	1,108	508	508	53	39
	%	100.0	45.8	45.8	4.8	3.6
25-44:						
Males	#	3,230	1,580	1,357	119	174
	%	100.0	48.9	42.0	3.7	5.4
Females	#	3,242	1,507	1,396	148	191
	%	100.0	46.5	43.1	4.6	5.9
45-64:						
Males	#	2,174	1,063	747	63	301
	%	100.0	48.9	34.4	2.9	13.8
Females	#	2,279	1,013	816	117	333
	%	100.0	44.4	35.8	5.1	14.6
65 and over:						
Males	#	887	360	275	38 Q	214
	%	100.0	40.6	31.0	4.3 Q	24.1
Females	#	1,132	454	329	70	279
	%	100.0	40.1	29.1	6.2	24.7

Q: Sampling error varying between 20% and 39% from given data.

Source: Statistics Canada. The Health of Canadians: Report of the Canada Health Survey, op. cit. Table 68, p. 133.

TABLE 20: Percentage of Respondents who have experienced the emotion, by age, Canada, 1982.

Emotion	AGE	
	18-24	25 et +
Excited - interested	73.5	62.5
Restless	43.6	27.8
Proud	69.2	62.6
Very lonely	14.6	13.8
Pleased	79.8	88.0
Bored	38.3	27.8
On top of world	55.5	57.3
Depressed	23.4	20.4
Going your way	72.0	71.9
Upset-criticised	24.6	18.2

Source: Gallup Poll, The CARA study of values in Canada, 1982, unpublished data.

TABLE 21: Population 15 Years and Over by "Health Opinion Survey" Scores, by Age and Sex, Canada, 1978-79.

Age et sex		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
			in thousands		
Age 15 and over:					
Both sexes	No.	17,492	16,248	693	550
	%	100.0	92.9	4.0	3.1
Male	No.	8,584	8,139	199	247
	%	100.0	94.8	2.3	2.9
Female	No.	8,907	8,110	494	304
	%	100.0	91.0	5.5	3.4
15-19:					
Male	No.	1,187	1,148	--	31 Q
	%	100.0	96.7	--	2.6 Q
Female	No.	1,146	1,081	50	15 Q
	%	100.0	94.3	4.4	1.3 Q
20-24:					
Male	No.	1,106	1,089	--	7 Q
	%	100.0	98.5	--	0.7 Q
Female	No.	1,108	1,045	57	6 Q
	%	100.0	94.3	5.1	0.6 Q
25-44:					
Male	No.	3,230	3,123	61 Q	46 Q
	%	100.0	96.7	1.9 Q	1.4 Q
Female	No.	3,242	3,043	142	56 Q
	%	100.0	93.9	4.4	1.7 Q
45-64:					
Male	No.	2,174	2,010	83	81
	%	100.0	92.4	3.8	3.7
Female	No.	2,279	2,002	158	119
	%	100.0	87.9	6.9	5.2
65 and over:					
Male	No.	887	769	36	81
	%	100.0	86.7	4.1	9.2
Female	No.	1,132	938	87	107
	%	100.0	82.8	7.7	9.5

Q: Sampling error varying between 20% and 39% from given data.

Source: Statistics Canada, The Health of Canadians: Report of the Canada Health Survey, op. cit., Table 69, p. 134.

Table 22: Number of Separations[1] and Rate (per 100,000) in General Hospitals and psychiatric Institutions, by Diagnosis of Mental Disorders, by Sex and Age, Canada, 1978.

Sex	15 - 19		20 - 24		25 - 64	
	Number	Rate	Number	Rate	Number	Rate
General Hospitals						
Male	4,071	335	6,858	607	50,292	918
Female	5,537	475	7,615	681	56,581	1,024
TOTAL	9,608	404	14,473	644	106,873	971
Psychiatric Institutions						
Male	2,775	226	4,531	401	23,325	425
Female	1,751	150	2,103	188	14,220	257
TOTAL	4,506	189	6,634	295	37,545	340

[1] Numbers represent the total number of separations so that one person hopitalized twice a year during the year is counted twice.

Sources: Data for general hospitals calculated from: Statistics Canada, Hospital Morbidity, Ottawa: Statistics Canada, 1978 (Catalogue 82-206). Data for psychiatric institutions are from: Statistics Canada, Health Division. Special compilation, 1978.

TABLE 23: Number and Rate of Hospitalizations (per 100 000) in General Hospitals[1] and Psychiatric Institutions[2], by the Five Principal Diagnoses of Mental Illness, for Each Sex and Age Group, Canada, 1978.

Institutions and Diagnoses		Male			Female		
		15-19	20-24	25-64	15-19	20-24	25-64
General Hospitals							
Neuroses	Number	860	1,445	10,268	2,081	3,247	24,341
	Rate	71	128	187	178	290	439
Schizophrenia	Number	719	1,970	5,133	448	1,079	6,166
	Rate	59	175	94	38	96	111
Alcoholism	Number	508	973	21,013	...	...	5,449
	Rate	42	86	383	...	...	98
Personality Disorders	Number	434	625	1,754	578	757	2,176
	Rate	36	55	32	50	68	39
Transitory Situational Disorders	Number	422	...	...	718	403	...
	Rate	35	...	...	62	36	...
Affective Psychoses	Number	...	398	4,061	...	599	8,893
	Rate	...	35	74	...	54	161
Unclassified Specific Symptoms	Number	...	...	...	399	...	...
	Rate	...	...	...	34	...	...
Psychiatric Institutions							
Neuroses	Number	592	929	3,589	898	1,452	7,297
	Rate	49	82	65	77	130	132
Schizophrenia	Number	468	984	6,500	246	395	5,324
	Rate	38	87	119	21	35	96
Personality Disorders	Number	411	447	1,161	251	266	...
	Rate	34	40	21	22	24	...
Transitory Situational Disorders	Number	326	...	...	395	193	...
	Rate	27	...	...	34	17	...
Childhood Behavioral Disorders	Number	260	...	...	294	...	...
	Rate	21	...	...	25	...	...
Alcoholism	Number	...	553	5,782	...	...	1,326
	Rate	...	49	105	...	...	24
Affective Psychoses	Number	...	290	2,499	...	358	4,386
	Rate	...	25	46	...	32	79
Other Psychoses	Number	...	...	...	...	...	617
	Rate	...	...	...	...	...	11

1 The numbers for general hospitals take into account all admissions.

2 The numbers for psychiatric institutions take into account only the first admission.

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op. cit., Table 57, 58, 59, 61 and 62.

TABLE 24: Average Annual Number of Bed-Days per Individual by Age and Sex, 15-24, Canada, 1978-79.

Age and Sex	Population	Bed-Days, Population Overall	Average per Individual
	in thousands		
15 - 19			
Male	1,187	3,610	3.04
Female	1,146	4,168	3.64
20 - 24			
Male	1,106	3,143	2.84
Female	1,108	5,698	5.14
15 - 24			
Male	2,294	6,752	2.94
Female	2,254	9,866	4.38
Total	4,548	16,619	3.65

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op. cit., Table 28.

TABLE 25: Number of Major Activity-loss Days and Average per Individual by Major Activity, by Age and Sex, 15-24 Years, Canada, 1978-79.

Major Activity and Sex	15-19			20-24		
	Population on '000	Overall No. of Days Lost '000	Average per individual	Population '000	Overall No. of Days Lost '000	Average per individual
School						
Male	594	3,347	5.63	158	240	1.52
Female	548	2,697	4.92	106	407	3.84
Work						
Male	322	811	2.52	753	2,380	3.16
Female	282	754	2.67	643	2,859	4.45
Home						
Male	--	--	--	--	--	--
Female	66	188	2.83	273	3,271	11.98
Total						
Male	917	4,158	4.54	912	2,621	2.87
Female	897	3,638	4.06	1,022	6,537	6.40

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op. cit., Table 27.

TABLE 26: Population by Frequency of Consultations with a Medical Doctor during the Last 12 Months, by Age and Sex, Canada, 1978-79.

Age and sex		Frequency of Consultations					
		Total	No consultation	1-2 consultations	3-9 consultations	10 consultations	Unknown
		in thousands					
All ages:							
Both sexes	Number	23,023	5,297	9,509	5,902	2,162	153
	%	100.0	23.0	41.3	25.6	9.4	0.7
Male	Number	11,417	3,194	4,807	2,571	762	83
	%	100.0	28.0	42.1	22.5	6.7	0.7
Female	Number	11,606	2,103	4,702	3,331	1,400	70
	%	100.0	18.1	40.5	28.7	12.1	0.6
Less than 5:							
Male	Number	880	71	336	410	61	—
	%	100.0	8.0	38.1	46.6	6.9	—
Female	Number	838	94	340	336	67	—
	%	100.0	11.2	40.5	40.1	8.0	—
5-9:							
Male	Number	914	183	468	211	49	—
	%	100.0	20.0	51.2	23.1	5.4	—
Female	Number	868	213	412	205	31	—
	%	100.0	24.6	47.5	23.6	3.6	—
10-14:							
Male	Number	1,038	332	481	181	41	—
	%	100.0	32.0	46.3	17.4	4.0	—
Female	Number	992	350	455	147	36Q	—
	%	100.0	35.3	45.9	14.8	3.6Q	—
15-19:							
Male	Number	1,187	481	475	176	52	—
	%	100.0	40.5	40.0	14.8	4.3	—
Female	Number	1,146	330	463	262	90	—
	%	100.0	28.8	40.4	22.9	7.0	—
20-24:							
Male	Number	1,106	352	475	226	38Q	14
	%	100.0	31.9	43.0	20.4	3.4Q	1.
Female	Number	1,108	128	466	377	125	—
	%	100.0	11.6	42.1	34.0	11.3	—
25-44:							
Male	Number	3,230	1,047	1,445	569	137	32 Q
	%	100.0	32.4	44.7	17.6	4.2	1.0 Q
Female	Number	3,242	450	1,367	944	463	18 Q
	%	100.0	13.9	42.2	29.1	14.3	0.5 Q
45-64:							
Male	Number	2,174	579	838	513	227	17 Q
	%	100.0	26.6	38.6	23.6	10.4	0.8 Q
Female	Number	2,279	385	863	674	345	11 Q
	%	100.0	16.9	37.9	29.6	15.1	0.5 Q
Over 65 years							
Male	Number	887	149	290	285	157	—
	%	100.0	16.8	32.7	32.1	17.7	—
Female	Number	1,132	152	336	385	253	6 Q
	%	100.0	13.4	29.6	34.0	22.4	0.6 Q

Q: Sampling error varying between 20% and 39% from given data.

Source: Statistics Canada, The Health of Canadians: Report of the Canada Health Survey, Table 86, page 169.

TABLE 27: Trends in the Main Indicators of Hospital Use, by Age group, Canada, 1972 to 1978, and 1980-81.

Main indicators by Age Group	1972	1973	1974	1975	1976	1977	1978	1980-81
14 years and under								
Separations per 100,000 inhabitants	10,975	10,891	10,823	10,376	10,041	9,922	9,765	9,318
Days of care per 100,000 inhabitants	73,236	69,632	67,815	62,561	57,215	55,231	55,228	51,408
Average hospital stay	6.7	6.4	6.3	6.0	5.7	5.6	5.7	5.5
15 - 24								
Separations per 100,000 inhabitants	14,718	14,821	14,308	13,844	13,373	12,803	12,508	12,019
Days of care per 100,000 inhabitants	95,576	94,056	87,911	83,714	77,870	75,527	73,138	71,352
Average hospital stay	6.5	6.3	6.1	6.0	5.8	5.9	5.8	5.9
25 - 44								
Separations per 100,000 inhabitants	17,467	17,286	16,801	16,180	15,622	14,958	14,712	13,531
Days of care per 100,000 inhabitants	138,943	132,744	126,286	118,158	108,006	106,119	101,874	96,214
Average hospital stay	8.0	7.7	7.5	7.3	7.0	7.1	6.9	7.1
45 - 64								
Separations per 100,000 inhabitants	18,860	19,077	19,039	18,637	18,027	17,477	17,345	16,397
Days of care per 100,000 inhabitants	256,032	247,792	242,647	231,471	216,107	214,890	203,954	203,573
Average hospital stay	13.6	13.0	12.7	12.4	12.0	12.3	11.8	12.4
65 and over								
Separations per 100,000 inhabitants	33,688	33,892	34,179	33,869	33,637	33,858	32,467	34,224
Days of care per 100,000 inhabitants	857,351	843,330	860,963	843,126	825,440	824,545	708,526	881,893
Average hospital stay	25.4	24.9	25.2	24.9	24.5	24.4	21.8	25.8

Source: Statistics Canada, Hospital Morbidity, Ottawa: Statistics Canada, 1978, Explanatory Table II, p. 3; and 1980-81, Explanatory Table VIII, p. 39 - (Catalogue, 82-206).

TABLE 28: Life and Survival Expectancy (in Years) at Various Ages, by Sex, Canada, 1931-81.

Age and sex	1931	1941	1951	1961	1971	1981
0						
Male	60.00	62.96	66.33	68.35	69.34	71.88
Female	62.10	66.30	70.83	74.17	76.36	78.98
15						
Male	53.41	54.06	55.39	56.20	56.33	58.04
Female	54.15	56.36	59.19	61.51	63.02	64.95
20						
Male	49.05	49.57	50.76	51.51	51.71	53.39
Female	49.76	51.76	54.41	56.65	58.18	60.08
25						
Male	44.83	45.18	46.20	46.91	47.16	48.78
Female	45.54	47.26	49.67	51.80	53.34	55.22

Source: Statistics Canada, Morbidity Tables - Ottawa: Statistics Canada - (Catalogue 85-515, 84-516 and 91-516).

TABLE 29: Mortality Rate per 100,000 inhabitants by age and sex, 1961-1982.

Year	15 - 19 Years		20 - 24 Years	
	Male	Female	Male	Female
1961	115.2	45.8	165.0	57.3
1966	130.5	51.4	182.1	54.9
1971	138.6	55.7	180.2	59.0
1972	163.3	60.5	203.5	54.1
1973	167.8	60.7	206.6	61.1
1974	170.2	58.7	199.7	60.1
1975	164.0	54.8	191.1	58.0
1976	145.3	51.4	176.6	51.7
1977	146.5	52.2	188.8	52.2
1978	137.3	47.1	183.4	54.6
1979	144.8	55.1	186.0	54.0
1980	134.1	49.2	165.5	53.8
1981	137.2	45.8	163.2	46.2
1982	116.3	41.5	142.8	40.4

Source: Statistics Canada, Vital Statistics VOL III: Mortality, Catalogue 84-206, Ottawa 1971 to 1982; and Vital Statistics, catalogue 84-202, Ottawa 1961 and 1966.

TABLE 30: Five Major Causes of Death (rates per 100,000) by sex and age group, 15-24 years, Canada, 1961 and 1981.

Age et cause of death	Male		Female	
	1961	1981	1961	1981
15-19				
- Motor vehicle traffic accidents[1]	37.9	64.1	13.8	19.4
- Cancer	10.7	6.4	7.7	4.5
- Diseases of the circulatory system	3.7	2.2	2.3	...
- Suicide	3.7	21.2	...	3.8
- Congenital Anomalies	2.6	...	2.0	2.2
- Influenza, Bronchitis, pneumonia	...	...	2.0	...
- Homicide	...	2.4	...	1.7
20-24				
- Motor vehicle traffic accidents[1]	68.6	68.4	11.7	16.6
- Cancer	11.1	6.9	6.9	4.6
- Suicide	9.0	33.2	...	5,9
- Diseases of the circulatory system	4.9	3.9	6.2	2.3
- Death in childbirth	...	...	4.5	...
- Congenital anomalies	2.6	...	3.2	...
- Homicide	...	4.1	...	3.0

[1] Traffic accidents involving motor vehicles.

Sources: Statistics Canada, Vital Statistics, Vol. III, Mortality, catalogue 84-206, 1981 and Statistics Canada. Vital Statistics - Ottawa: Statistics Canada, Catalogue 84-202, 1961.

TABLE 31: Mortality Rate per 100,000 Inhabitants in Highway Accidents or Through Suicide, 15-24 years old by sex, Various Industrialized Countries, 1978.

Country	Highway Accidents			Suicide		
	Total	Male	Female	Total	Male	Female
Canada	42.1	65.7	18.0	16.9	27.8	5.7
West Germany	45.3	70.3	19.1	16.9	23.8	9.6
Australia	58.4	92.0	23.4	11.4	17.5	5.1
United States	46.4	70.5	22.1	12.4	20.0	4.7
Finland	15.9	25.0	6.5	20.7	35.7	5.0
France	37.4	59.2	14.8	9.7	14.0	5.2
Japan	16.1	28.0	5.7	14.6	19.2	9.9
Norway	20.6	31.4	9.3	12.3	18.1	6.3
Sweden	21.2	31.1	10.8	13.8	19.2	8,2

Sources: World Health Organization, World Health Statistics Annual, Vol. 1: Populations Shift and causes of death, Geneva, 1978.

TABLE 32: Mortality Rate (Per 100,000 inhabitants) following a traffic motor vehicle accident, by age and sex, Canada and the Provinces, 1984.

	Canada	New-found-land	P.E.I.	Nova-Scotia	New-Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British-Columbia
15-19											
Total	42.2	22.2	- -	56.0	51.3	41.1	28.4	38.5	50.6	61.6	70.6
Male	64.1	31.2	- -	97.8	75.8	65.4	44.5	47.2	78.7	84.8	103.1
Female	19.4	12.9	- -	11.9	25.6	15.8	11.6	29.5	21.4	37.2	36.7
20-24											
Total	42.5	39.2	- -	56.2	67.7	37.8	36.3	33.0	50.5	51.1	65.3
Male	68.4	59.9	- -	48.4	117.5	63.0	58.8	50.9	86.8	74.4	102.5
Female	16.6	19.2	- -	- -	21.7	12.4	14.1	14.9	13.6	25.9	28.5

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives of their Health. Op.cit., table 55.

TABLE 33: Suicide Rate per 100,000 Inhabitants by Age and Sex, Canada, 1961 to 1982.

Age and sex	1961	1966	1971	1976	1981	1982
15 - 19						
Male	3.7	6.0	12.7	16.8	21.2	21.5
Female	0.9	1.3	3.1	4.3	3.8	3.2
Both sexes	2.3	3.7	7.9	10.7	12.7	..
20 - 24						
Male	9.0	15.3	23.1	29.0	33.2	32.0
Female	2.5	3.0	5.7	8.2	5.9	6.2
Both sexes	5.7	9.1	14.4	18.7	19.6	..
All Ages						
Male	11.9	12.8	17.3	18.4	21.3	22.3
Female	3.0	4.3	6.4	7.2	6.8	6.4
TOTAL	7.5	8.6	11.9	12.8	14.0	..

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op.cit., table 63 and Statistics Canada. Vital Statistics. Op. cit., 1982 - (Catalogue 84-206).

TABLE 34: Suicide Rate by 100,000 inhabitants, by Age and Sex, 15-24, Canada and Provinces, 1961-1981.

	1961						1971						1981					
	15 - 19			20 - 24			15 - 19			20 - 24			15 - 19			20 - 24		
Province	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Canada	3.7	0.8	2.3	9.0	2.5	5.7	12.7	3.1	7.9	23.1	5.7	14.4	21.1	3.8	12.6	33.2	5.9	19.6
Nfld.	9.1	-	4.6	6.5	-	3.3	3.3	-	1.7	4.5	-	2.2	9.4	-	4.8	24.0	-	11.7
P.E.I.	-	-	-	-	-	-	17.1	-	8.7	-	-	-	15.1	-	7.7	38.7	-	19.0
N.S.	3.0	-	1.6	-	-	-	4.9	-	2.5	26.0	3.0	14.6	11.4	9.6	10.5	33.1	-	16.6
N.B.	7,3	-	3,7	10,6	-	5,3	-	-	-	6,9	3,6	5,3	5,4	5,7	5,5	40,2	-	20,1
Quebec	1.7	0.9	1.3	3.3	2.1	2.7	12.4	2.3	7.4	19.1	3.6	11.3	19.9	2.6	11.4	38.8	7.1	23.0
Ontario	4.0	0.9	2.5	11.6	4.1	7.7	14.6	2.8	8.8	24.2	6.8	15.4	16.4	2.5	9.6	25.2	4.5	14.8
Manitoba	-	-	-	6.7	-	3.4	14.3	4.2	9.3	34.9	14.1	24.6	39.0	2.1	20.8	44.5	10.7	27.7
Sask.	8.0	2.8	5.5	13.8	-	7.0	16.4	2.1	9.4	11.4	-	5.8	41.4	17.1	29.5	42.3	15.9	29.2
Alberta	6.0	2.0	4.0	15.8	2.2	9.0	24.4	3.8	14.3	28.3	4.2	16.2	32.8	3.8	18.7	34.3	3.1	19.3
B.C.	5.2	-	2.7	14.7	4.2	9.4	4.9	9.2	7.0	39.4	9.8	22.7	22.9	4.3	13.8	33.6	7.9	20.7
Yukon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N.W.T.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth:Perspectives on their Health. Op.cit., table 63.

TABLE 35: Percentage of suicides by means used, by age and sex, Canada, 1981.

Means	15-19 years		20-24 years		25-64 years	
	Male %	Female %	Male %	Female %	Male %	Female %
- Drugs, medicaments and biological substances	4.0	30.2	6.4	26.1	11.1	40.3
- Other solid or liquid substances	-	-	0.8	4.3	1.7	1.7
- Gases or vapours	3.2	2.3	11.5	7.2	12.0	10.2
- Hanging, strangulation and asphyxiation	27.6	20.9	20.5	20.3	24.2	17.8
- Hand gun	0.8	-	-	1.4	1.6	0.2
- Fire arms, all other types and unspecified	57.2	39.5	49.5	21.7	35.9	9.2
- All other means and late effects of attempted suicide	7.2	7.0	11.3	18.8	13.4	20.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op.cit., Tale 65

TABLE 36: Number and Rate[1] of Hospitalizations (per 100,000 population) following suicide attempts or self-inflicted injuries by age and sex, for five Canadian provinces in 1980-81[2].

Province		15-19 years			20-24 years		
		Total	Male	Female	Total	Male	Female
Nova-Scotia	Number	25	10	15	26	11	15
	Rate	28.6	22.4	35.2	33.1	27.8	38.7
Manitoba	Number	192	74	118	151	73	78
	Rate	195.5	148.9	243.3	161.0	154.7	167.4
Saskatchewan	Number	69	26	43	74	36	38
	Rate	71.5	53.1	90.5	83.2	80.2	86.4
Alberta	Number	332	108	224	388	160	228
	Rate	154.1	98.5	211.7	157.1	125.0	191.8
British-Columbia	Number	558	199	359	565	258	307
	Rate	231.2	161.5	303.7	231.5	212.7	272.2

[1] The rates are based on intercensal estimates as of June 1, 1980.

[2] Statistics Canada has data for these five provinces only.

Source: Lapierre, Louise and Hélène Aylwin. Canadian Youth: Perspectives on their Health. Op.cit., Table 64.

BIBLIOGRAPHY

BIBLIOGRAPHY

ABLESON, J., PADDON, P. and STROHMENGER, C. Perspectives on Health. Catalogue 82-540E Occasional, Ottawa, Statistics Canada, 1983.

ADAM, K.S., LOHRENZ, J.G., HARPER, D. and STREINER, D. "Early parental loss and suicidal ideation in university students". Canadian Journal of Psychiatry, 1982, 27, 275-281.

ALLSOP, R.E., "Alcohol and Road Accidents", Department of Transports, Road RES. LAB. REP. No. 6, Hamondsworth, United States, 1966, Mentioned in Simpson et al, 1982.

BAKAL, D.A., MILSTEIN, S.L. and ROOTMAN, I. "Trends in drug use among rural students in Alberta: 1971-1974". Canada's Mental Health, 1975, 23, 8-9

BARRETT, F.M. "Sexual experience, birth control usage, and sex education of unmarried university students: changes between 1968 and 1978". Archives of Sexual Behavior, 1980, 9, 367-390.

BEALS, T.L., ANDERSON, G.H., PETERSON, R.D., THOMPSON, G.W. and HARGREAVES, J.E. "Between-meal eating by Ontario children and teenagers." Journal of the Canadian Dietetic Association, 1981, 42, 242-247.

BIBEAU, G and VALLA, J.P. L'usage des substances psychoactives et les modalités de relation au corps chez les adolescents québécois des deux années terminales du secondaire. Unpublished text, Université de Montréal, undated.

BOOR, M. "Relationships between unemployment rates and suicide rates in eight countries, 1962-1976". Psychological Reports, 1980, 47, 1095-1101.

BROWN, G. and HARRIS, T. Social origins of depressions. London: Tavistock, 1979.

CAMERON, E. "Starvation diet." Saturday Night, December 1983, 15-17.

CHARRON, M.F. Le suicide au Québec. Gouvernement du Québec, ministère des Affaires sociales, Service des études épidémiologiques, 1981.

COOPERSTOCK, R. "A review of women's psychotropic drug use". Canadian Journal of Psychiatry, 1977, 24, 29-34.

COOPERSTOCK, R. and PARNELL, P. "Research on psychotropic drug use. A review of findings and methods". Social Science and Medicine, 1982, 16, 1197-1207.

COLLISHAW, N.E. Is Cigarette Consumption Declining in Canada? Paper presented to the Fifth World Conference on Smoking and Health, Winnipeg, Canada. July 13, 1983.

CRAWFORD, L. "Junk food in our schools? A look at student spending in school vending machines and concessions". Journal of the Canadian Dietetic Association, 1977, 38, 193-197.

CURRIE, R.F., PERLMAN, D. and WALKER, L. "Marijuana use among Calgary youths as a function of sampling and locus of control". British Journal of Addiction, 1977, 72, 159-165

D'ARCY, C. "Prevalence and correlates on nonpsychotic psychiatric symptoms in the general population". Canadian Journal of Psychiatry, 1982, 27, 316-324.

DEMERS, L. Youth and the Family (temporary title). Ottawa: Secretary of State, 1985 (to be published).

DICKIE, N. An Examination of Alcohol Related Questions in the Lepage et al. Survey of Non-Medical Druge Use: Fredericton, Edmunston, 1978. Mentionned in Whitehead, 1984.

FEJER, D., and SMART, R. "The use of psychoactive drugs by adults". Canadian Psychiatric Association Journal. 1973, 18 (4), 313-320.

FILLMORE, K. "Relationships between specific drinking problems in early adulthood and middle age". Journal of Studies on Alcohol, 1975, 36, 882-907. Mentioned in Whitehead 1984.

FINKEL, M.L. and FINKEL, D.J. "Sexual and contraceptive knowledge: Attitudes and Behaviour of male adolescents." Family Planning Perspectives, 1975, 7, 256-260. Mentioned in Noble, 1982.

FITNESS CANADA SURVEY. Fitness and Lifestyle in Canada, Ottawa, Fitness and Amateur Sport, 1983a.

FITNESS CANADA SURVEY. Canadian Youth and Physical Activity, Ottawa, Fitness and Amateur Sport, 1983b.

GALLUP. Study Among Young Canadians. Ottawa: Health Promotion Branch, Health and Welfare Canada, 1983.

GALLUP. CARA Study on Canadian Values, 1982, unpublished data.

GALLUP. "Frequency of drinking alcohol in British Columbia." Ottawa: Health and Welfare Canada, 1979.

GOCHMAN, D.S. and SAUCIER, J.F. "Perceived vulnerability in children and adolescents". Health Education Quarterly, 1982, 9, 142-155.

GOLDBERG, E.L. "Depression and suicide ideation in the young adult". American Journal of Psychiatry, 1981, 138, 35-40.

HELLON, C.P. and SOLOMON, M.I. "Suicide and Age in Alberta, Canada, 1951 to 1977: The changing profile". Archives of General Psychiatry, 1980, 37, 146-155.

HETHERINGTON, R.W., DICKINSON, J., CIPYWNYK, D. and HAY, D. Drinking Behavior Among Saskatchewan Adolescents. Ottawa: Health and Welfare Canada, 1977. Mentioned in Whitehead, 1984.

JARVIS, G.K., FERRENCE, R.G. and JOHNSON, F.G. "Sex and age patterns in self-injury". Journal of Health and Social Behavior, 1976, 17, 146-155.

JARVIS, G.K., and BOLDT, M. "Death styles among Canada's Indians". Social Science and Medicine, 1982, 16, 1345-1352.

JEUNE, F.A. TOLEIKIS, L., and UNGER, R. Alcohol Consumption Among Victoria Area Students. Available from Alcohol-Drug Education Service, Vancouver, B.C., 1978.

KAPLAN, H.D. Deviant Behaviour in Defence of Self. London Academic Press, 1980.

KESSLER, R.C. and McRAE, J.A. "Trends in the relationship between sex and attempted suicide". Journal of Health and Social Behavior, 1983, 24, 98-110.

KILLORN, J. Chemical Use Among P.E.I. Students, 1982. Charlottetown: Alcohol and Drug Problems Institute, 1982.

KOHN, P.M., GOODSTADT, M.S., COOK, G.M., SHEPPARD, M. and CHAN, G. "Ineffectiveness of threat appeals about drinking and driving." Accident Analysis and Prevention, 1982, 14, 457-464.

LAMONTAGNE, Y., TETREAULT, L. and BOYER, R. "Consommation d'alcool et de drogues chez les étudiants: consommation, effets et raison d'utilisation d'alcool chez des étudiants du niveau collégial (CEGEP). L'Union médicale, 1979, 108, 1-6. Mentioned in Whitehead, 1984.

LAPIERRE, L. and AYLWIN, H. Canadian Youth: Perspectives on their Health. Health Division. Statistics Canada. Ottawa: catalogue 82-545E, 1985.

LAPIERRE-ADAMCYK, E. and PERRON, Y. "Familles et enfants au Québec: la toile de fond démographique". Santé Mentale au Québec, 1983, 8, 27-42.

LAWSON, J.J., ARORA, H.R., JONAH, B.A., KRZYZEWSKI, J.W., SMITH, G.A. and STEWART, D.E. 1981 night-time surveys of drivers' alcohol use. 26th ANNUAL PROCEEDINGS, American Association of Automotive Medicine, October 4-6, 1982.

LIBAN, C.B. and SMART, R.G. "Drinking and drug use among Ontario Indian Students". Drug and Alcohol Dependence, 1982, 9, 161-171.

LONGWOODS RESEARCH GROUP LIMITED. AADAC's Teen and Parent Benchmark Survey. Edmonton: The Alberta Alcholism and Drug Abuse Commission, 1982.

MALLA, A. and HOENIG, J. Differences in suicide rates: an examination of under-reporting. Canadian Journal of Psychiatry, 1983, 28, 291-293.

McDONALD, S.T. "Three-level study: Final report on the relationship between drivers' characteristics and accidents causation." Indiana University: Institute for research in public safety, NHT SA: DOT.HS-034-3-535, 1977. Mentioned in Simpson et al, 1982.

MacGREGOR, B. Trends in Alcohol Consumption in Canada from 1976 to 1979 -- a Statistical Report. Ottawa: Health Services and Promotion Directorate, Health and Welfare Canada, 1979.

METLTZER, A. "Transmitted Diseases in Canada." Canadian Journal of Public Health. 1979, 70, 366-369, Mentioned in Noble, 1982.

MILLAR, W.J. Smoking Habits of Canadians in 1981. Ottawa: Health Promotion Directorate. Health Services and Promotion Branch, Health and Welfare Canada.

MILLER, G.H. and GERSTEIN, D.R. "The Life Expectancy of Nonsmoking Men and Women". Public Health Reports, 1983, 98, 343-349.

MINISTER OF NATIONAL HEALTH AND WELFARE. Sexually transmitted diseases in Canada. Bureau of Epidemiology, Laboratory Centre for Disease Control, Health Protection Branch, 1981.

MISHARA, B.L. and KASTENBAUM, R. Alcohol and old age. New York: Grune and Stratton, 1980.

MORISON, J.B., "Smoking habits of Winnipeg school students, 1960-1980". Canadian Medical Association Journal, 1982, 126, 153-154.

MURRAY, R.P. Manitoba Health and Drinking Survey: The Social Epidemiology of Alcohol Abuse in Eastman Region, Winnipeg, 1978.

NICHOL, H. "Incidence of psychiatric treatment of adolescents". Canadian Journal of Psychiatry, 1979, 24, 521-531.

NICHOLS, E.S and DAVIES, J.W. Accidents, poisoning and violence in Canada: An overview. Ottawa: Bureau of Epidemiology, Health and Welfare Canada, 1980.

NOBLE, K.A. "L'adolescent, M.T.S. et l'éducateur sanitaire." Education sanitaire, 1982, 20, 14-20.

NUTTER, Carolyn. "The relationship of level of alcohol consumption to problem consequences". Personal communication. Mentioned in Whitehead, 1984.

O'LOUGHLIN, J. Emotional health in the territory of the Montreal General Hospital Department of Community Health, Department of Community Health, Montreal General Hospital, 1982.

POOL, J.S. Consumption of prescribed drugs in Canada. Ottawa: Non-medical Use of Drugs Directorate, Health and Welfare Canada, 1977.

POWELL, M.G. and DEBER, R.B. "Why is the number of pregnancies among teenagers decreasing?" Canadian Medical Association Journal, 1982, 127, 493-495.

RITTENBAUGH, C. "Obesity as a culture-bound syndrom." Culture, Medecine and Psychiatry, 1982, 6, 347-362.

ROGERS, B. Reported Disability Experience in Relation to Cigarette Smoking Status on the Canada Health Survey, 1978-79. Unpublished text, undated.

ROOTMAN, I. and RICHMAN, A. "Trends in reported illegal narcotic use in Canada: 1956-197." Bulletin on Narcotics, 1975, 27, 27-41.

SACKS, D. "Pregnancy among teenagers." Canadian Medical Association Journal, 1981, 124, 959-1047.

SASKATCHEWAN HEALTH. Report on the task force on women's health. September, 1980.

SAUCIER, J.F. "Montreal French-speaking teenagers and a few aspects of nutrition". Paper presented at the Society for Nutrition Education. Montréal, 1980.

SAUCIER, J.F. Les Québécois veulent-ils être en santé? Paper presented at the annual convention of the Corporation professionnelle des diététistes du Québec, Queen Elizabeth Hotel, Montréal, May 29, 1981.

SAUCIER, J.F., "L'évolution de l'adolescent montréalais "normal" du secondaire I au CEGEP II". Cahiers Pédopsychiatriques de l'Hôpital Ste-Justine, Montréal, no. 15, 1981a, 6-26.

SAUCIER, J.F. and GAUTHIER, M.C. Le degré des connaissances en relation avec les attitudes et les comportements, en prévention, chez les adolescents montréalais. Unpublished paper, undated.

SAUCIER, J.F. and LAMBERT, A.M. "Parental marital status and adolescents' health-risk behavior". Adolescence, 1983, 18, 403-411.

SAUCIER, J.F. and STEINBERG, M. Adolescents et prévention. Rapport préliminaire de recherche. Section des sciences du comportement, Département de psychiatrie, Université de Montréal et Centre de recherche pédiatrique, Hôpital Ste-Justine, Montréal, 1979.

SHEPPARD, R.J. "Present views on the Canadian Home Fitness Test". Canadian Medical Association Journal, 1981, 124, 875-879.

SIMPSON, H.M., MAYHEW, D.R. and WARREN, R.A. "Epidemiology of road accidents involving young adults: Alcohol, drugs and other factors". Drug and Alcohol Dependence, 1982, 10, 35-63.

SMART, R.G. "Some current studies of psychoactive and hallucogenic drug use". Canadian Journal of Behavioral Science, 1970, 2, 232-245.

SMART, R.G. "The distribution of illicit drug use: correlations between extent of use, heavy use and problems". Bulletin on Narcotics, 1978, 30, 33-41.

SMART, R.G. The new drinkers. Toronto: Addiction Research Foundation, 1981, 2nd edition.

SMART, R.G. The methodology for drug use surveys of non-student youth. Toronto: Alcoholism and Drug Addiction Research Foundation, Substudy No. 981, 1978.

SMART, R.G. and coll. A methodology for student drug-use surveys. Geneva: World Health Organization, 1980.

SMART, R.G. and ADLAF, E.M. "Adverse reactions and seeking medical treatment among student cannabis users". Drug and Alcohol Dependence, 1982, 9, 201-211.

SMART, R.G., GOODSTADT, M.S., SHEPPARD, M.A., CHAN, G.C., ADLAF, E.M. and LIBAN, C.B. "Preliminary Report of Alcohol and Other Drug Use Among Ontario Students in 1983, and Trends Since 1977". Toronto: Alcoholism and Drug Addiction Research Foundation, Substudy No. 1203, 1983.

SMART, R.G. and LIBAN, C.B. "Predictors of problem drinking among elderly, middle-aged and youthful drinkers". Journal of Psycho-active Drugs, 1981, 13 (No.2, April-June), 153-163. (U.S.A.). Mentioned in Whitehead, 1984.

SMART, R.G. and MURRAY, G.F. A review of trends in alcohol and cannabis use among young people. Bulletin of Narcotics, 1981, 33, 77-90.

SOLOMON, M. and M. BOLDT. Interim report on suicide: Phase I: youth suicide. Department of Social Services and Community Health, Alberta, 1975.

SOLOMON, M.I. and HELLON, C.P. "Suicide and age in Alberta, Canada, 1951 to 1977: A cohort analysis". Archives of General psychiatry, 1980, 37, 511-51.

STATISTICS CANADA. Hospital Morbidity 1971. Ottawa: Health Division, Statistics Canada, Hospital Morbidity Section, 1974.

STATISTICS CANADA. Tables of Mortality 1931, 1941, 1951, 1961, 1971, 1981. Ottawa: Statistics Canada.

STATISTICS CANADA. Workmen's - Workers' Compensation. Ottawa: Statistics Canada, 1980.

STATISTICS CANADA. Special Report on Alcohol. Ottawa: Health and Welfare Canada, 1981a.

STATISTICS CANADA AND HEALTH AND WELFARE CANADA. Health of Canadians: Canada Health Survey Report. Ottawa: Health and Welfare Canada, 1981b.

STATISTICS CANADA. Hospital Morbidity 1978. Ottawa: Statistics Canada, Health Division, Hospital Morbidity Section, 1982.

STATISTICS CANADA. Hospital Morbidity 1980-81. Ottawa: Statistics Canada, Health Division, Hospital Morbidity Section, 1984.

STATISTICS CANADA. Vital Statistics 1970-1982. Ottawa: Statistics Canada,Vol.1 Births and Deaths, 1970 to 1984.

STATISTICS CANADA. Vital Statistics, Ottawa: Statistics Canada, Vol.3, Mortality, 1961, 1966, 1971 to 1982.

STATISTICS CANADA. "Suicide as a cause of death in Canada". Canadian Statistical Review, July 1981. Ottawa: Statistics Canada, 1981c. Mentioned in Whitehead, 1984.

TOUSIGNANT, M. L'utilisation du réseau social par des adolescents suicidaires lors d'événements stressants. Unpublished text, Laboratoire d'écologie humaine et sociale, Université du Québec à Montréal, 1983.

TOUSIGNANT, M., BERGERON, L. and D. HANIGAN. "Le mal de vivre: comportements et idéations suicidaires chez les cégépiens de Montréal". Santé mentale au Québec, Novembre 1984, 9, 122-133.

TOUSIGNANT, M., DENIS, G. and LACHAPELLE, R. "Some considerations about the validity of the Health Opinion Survey". Journal of Health and Social Behavior, 1974, 15, 241-252.

TRANSPORT CANADA. "Alcohol Involvement of Drivers in Fatal Motor Vehicle Accidents, 1973 to 1981". Road Safety. Leaflet TP2436.

TREMBLAY J., BIBEAU, G., HEBERT, F. and ROUSSEAU, N. Les mécanismes de reproduction du tabagisme chez les pré-adolescents québécois. Unpublished text,Université Laval, 1981.

TUDOR, W., TUDOR, J. and GOVE, W. "The effect of sex role differences on the social control of mental illness." Journal of Health and Social Behavior, 1977, 18, 98-112.

WADHERA, A. and NAIR, C. "Legal abortions among teenagers in Canada, 1974 through 1978". Canadian Medical Association Journal, 1980, 122, 1386-1390.

WALDRON, I. "Why do women live longer than men?" Social Science and Medicine, 1976, 10, 349-362.

WEISSMAN, M.M. and KLERMAN, G.L. "Sex differences and the epidemiology of depression". Archives of General Psychiatry, 1977, 34, 98-111.

WESTON, M. Youth, health and lifestyles: a report of work in progress. Regina: Saskatchewan Health, 1980.

WHITE, J. and Fallis, A. The Extent of Drug Use Among Canadian Students in 1976. Ottawa: Health and Welfare Canada, 1977.

WHITEHEAD, P.C. Young Drinkers: A Recent Canadian Study. Ottawa: Health Promotion Directorate, Health and Welfare Canada, 1984.

WORLD HEALTH ORGANIZATION. World Health Statistics Annual: Vital Statistics and Causes of Death, Geneva 1978.

RESEARCH REPORTS ON YOUTH

RAPPORTS DE RECHERCHE SUR LES JEUNES

- Linguistic Characteristics of Young People and their Attitudes to Language Issues/Caractéristiques et attitudes des jeunes face aux questions linguistiques, Robert Bourbeau, June/juin 1984, 46p.

- Portrait of Youth Crime/La criminalité chez les jeunes, Louise Biron and/et Danielle Gauvreau, December/décembre 1984, 139p.

- Youth Economic Activity/Les jeunes et l'activité économique, David Ross, December/décembre 1984, 120p.

- Youth Health in Canada: Trends, Assessment and Psychosocial Aspects/La santé des jeunes au Canada: bilan, tendances et aspects psychosociaux, Michel Tousignant, March/mars 1985, 99p.

- Youth and Education: A Study of 15-24 Year-Olds in the Canadian Education Systems/ Les jeunes et l'éducation: une étude des 15-24 ans dans les systèmes d'éducation au Canada, Louise Dallaire and/et Jacques Belleau, November/novembre 1985, 136 p.

- Some Dimensions of the Social Integration of Canadian Youth/Quelques dimensions de l'insertion sociale de la jeunesse canadienne, Carmen Frenette, publication pending/à paraître.

- Young People and the Family: Some Demographic Aspects/Les jeunes et la famille: Quelques aspects démographiques, Linda Demers, publication pending/à paraître.

***

- Young People - A Statistical Overview/Aperçu statistique sur les jeunes, Linda Demers, May/mai 1982, 37p.

- Youth Canada: Problems and Prospects - A Review of the Literature/ Jeunesse Canada: Problèmes et perspectives - Une revue de la littérature, C. Michael Lanphier and/et Ann Perez, August/août 1983, 65p.